

APRIL 1996

# POPULAR COMMUNICATIONS

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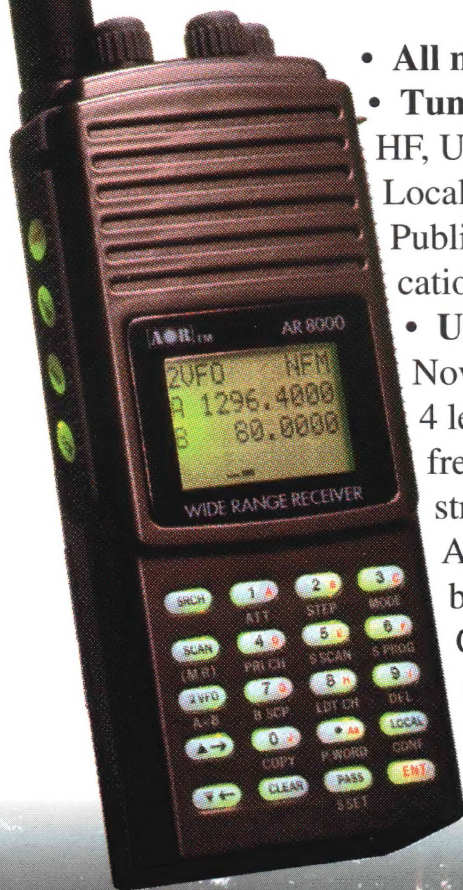
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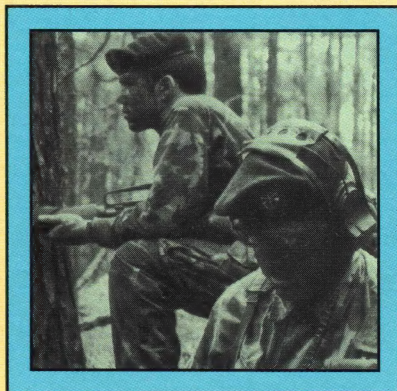




# POPULAR COMMUNICATIONS

APRIL 1996

VOLUME 14, NUMBER 7



page 8



page 80



page 50

## FEATURES

### Uncle Tommy's Freaky Frequency Festival 8

Try these bizarre oddball channels during your April Fool's trickery.

*By Tom Kneitel, K2AES, Senior Editor*

### African DX Safari 12

Tune in this fascinating continent.

*By Gerry L. Dexter*

### WJAZ: It Was One Of A Kind! 22

One of the 1920s most unique broadcasters.

*By Alice Brannigan*

### Books You'll Like 30

Pirate Radio, Police Call Plus and Spectrum Guide.

*By R.L. Slattery*

### An Unusual Station 32

Seven-and-a-half inches of reel tape with its own FCC callsign.

*By Peter Hunn*

### ✓ Checked Out 38

POP'COMM reviews the Viking 10-hour tape recorder.

*By W.W. Smith*

## COLUMNS

Scanning VHF/UHF .....	34
Satellite View .....	36
Emergency .....	42
You Should Know .....	44
The Ham Column .....	49
Listening Post .....	50
Broadcast DXing .....	55
CB Scene .....	60
New Products .....	64
Pirates Den .....	68
Communications Confidential .....	70
Telephones Enroute .....	80
Clandestine Communique .....	83
Washington Pulse .....	86
HandiChat .....	88
How I Got Started .....	92

## DEPARTMENTS

Thoughtwaves .....	5
Mailbag .....	6
World Band Tuning Tips .....	46
Communications Shop .....	89

**This month's cover:** Members of the emergency room staff at Vassar Brothers Hospital in Poughkeepsie, N.Y. talk with incoming ambulance on radio while looking at EEG sent by radio. Photo by Larry Mulvehill, WB2ZPI



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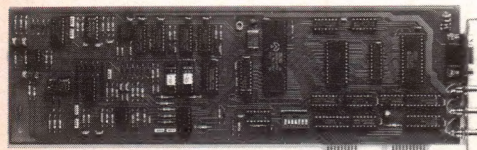
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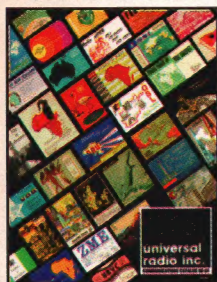


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BY CHUCK GYSI, N2DUP

# Thoughtwaves

## AN EDITORIAL

### The Need to Search

**I**t seems odd, but I think the radio hobby has become too easy. Is the challenge still there? One might argue. Let's take a look at a couple of areas.

Let's face it: At one time, if you wanted to tinker with radios and similar squawk boxes you had to build the confounded contraption, power it and sit with a pair of cans held against your ears. Eventually, you could purchase a ready-to-go radio and have the same fun with no hassle.

Well, like broadcast listening, other types of listening have gone from challenge to ease over the years. Some of my first VHF receivers were tunables. The old Hallicrafters S-95 VHF high band receiver that still has a place in my shack (albeit dusty) was a challenge to monitor stations. You had to guess where stations were on the dial first and then keep spinning around the dial until they transmitted. When they transmitted, you finely tuned the signal in an attempt to lock it in. That led to various pen marks across the arc of the dial to denote where favorite frequencies were approximately located.

But because of the advent of the personal computer, it is a heck of a lot easier these days to carry out the task of listening. Want to know what frequency your local police department uses for surveillance purposes? Check the listings in a regional scanner directory. Want to know what frequency is used by a certain business in town? Use one of the several commercially available CD-ROM programs to look up the frequency.

And hams looking up QTHs for QSL cards for mailing purposes can get all that info on a tidy CD-ROM for their computer...taking up a whole lot less space on the shelf than a volume or two!

What's going on with the hobby?

It seems the computer has made it easy for information to be made available to the hobbyist. When I first started scanner listening in earnest back in the early 1970s, there were few frequency listings available. Most scanner shops had their own mimeographed sheets with popular frequencies detailed (to spur the sale of crystals!). And some scanner directories were just making it out into the mainstream radio shops for the first time. Where did you get frequencies previously? Seems you had to beg, borrow and steal lists to get the hot info. Some magazines cater-

ing to home hobbyists even ran listings such as big-city fire frequencies!

But that has changed. The hobby has become so much easier with the proliferation of information out there. The so-called information superhighway is glutted with frequency factoids from coast to coast.

Whereas one would have to search around the 167-MHz band to try to identify FBI frequencies in use in the past, one now can go out and buy regional scanner directories that include the information in all its glory!

Hey! No effort! Just punch in the frequencies and you're an expert like the guy or gal who compiled the lists. No, you don't have to sit and search in increments from 162 to 174 MHz now to find all the frequencies used by the FBI. Go out and buy a regional directory, and the sport is transformed from an African safari to a simple mechanical task of dialing in the exact numbers.

What kind of sport is this? Follow the leader? Does anyone actively seek out new and interesting frequencies? When was the last time you searched from 138 to 144 MHz to see what type of military frequencies you could find? Unless you even knew to look here, you'd probably overlook that subband. So, I guess all these frequency directories on the market actually might be a good idea after all. At least they give you a better idea what IS out there and maybe you can spend time trying to find the stuff that is hidden underneath.

The radio listening hobby is great. There's no argument there, at least from our readers. But with the proliferation and almost glut of information available from store shelves to newsstand anymore, how does one honestly manipulate and manage the volumes of information? I have many radio directories chock-full of listings at my disposal. How do I decide which one to consult first? In all honesty, sometimes I don't and I go back to that innocent time of the past and stumble in the dark. Imagine that. Just me and the radio. Catching callsigns. Noting station IDs. Making pen marks on the dial front. It's the old-fashioned way and it's relaxing. No pressure from a stack of directories to perform. Radio, the way it was meant to be: entertaining.

73, Chuck



# Mailbag

## LETTERS TO THE EDITOR

Each month we select representative reader letters for our Mailbag column. We reserve the right to condense lengthy letters for space reasons and to edit to conform to style. All letters submitted must be signed and show a return mailing address or valid e-mail address. Upon request, we will withhold a sender's name if the letter is used in Mailbag. Address letters to: Chuck Gysi, N2DUP, Editor, Popular Communications, 76 N. Broadway, Hicksville, NY 11801-2909, or send e-mail via the Internet to POPCOMM@aol.com.

### Hamfest Costs

I have to disagree with the mail concerning the cost of admission to local hamfests (October and November 1995).

The cost of admission is meant to cover at least three items: the cost of renting the facility, it is our only fund raiser for the year, and the cost of incidentals such as insurance and prizes. Last year, it cost more than \$2,000 to rent the facility our club uses, not including items such as insurance (\$500) and prizes (\$3,000). Our club spon-

sors various scholarships at \$1,000 each and runs three repeaters in the local area, two of which have open phone patches at another \$850 a year.

It may seem a bit much when the same junk shows up year after year, but that is purely a function of the minor vendors and table renters. We have had at every hamfest I can remember at least three or four major vendors of all types of ham items, radios, antennas, cable and so forth. The big question is whether the club can break even for the year after paying our bills, awarding scholarships, maintaining the repeaters and having enough reserve to cover the unlikely return of hurricanes (Opal and Erin required the replacement of antennas at all of our club sites).

The next time you pay admission for a hamfest, remember these things, enjoy the fellowship and eyeball QSOs and have a good time; but if you're only there to shop, why not look for some 1-800 numbers and get some free catalogs.

Richard S. Lutz, KD4SEV  
Fort Walton Beach, Fla.  
(via America Online)

### Goin' Digital

I knew when I read the article on Cleveland going full digital that the Neanderthals of the analog world would be writing in with tears running down their cheeks. It's time to wake up, radio world! Analog transmission is a dinosaur on its way to extinction.

Phone companies have been using digital transmission for interoffice trunking since the 1960s, converting to digital/optical in the early 1980s. I don't think you can even buy an analog PBX system anymore; they are all digital.

In recent years, compact disc (digital) killed off the record (analog). Digital satellite TV has come online and ultimately will put an end to analog TV. AM/FM radio ultimately will convert to digital transmission. The first PCS (personal communications service) system has just gone online in the Washington, D.C., area and it is full digital. All PCS services to be offered in the coming years will be totally digital, no matter what frequencies are used.

I don't believe for one moment that Cleveland pulled a dirty trick on us scanner freaks. Cleveland simply bought the best system, using the latest technology, that money could buy. In the years to come, this will be the trend of all major municipalities as they upgrade their communications systems.

Peter Thompson  
Missouri City, Texas

The feature on Cleveland, Ohio, switching to a digital trunked system caused me to pause. There are signals out there that I can't monitor and there is nothing I can do about it!

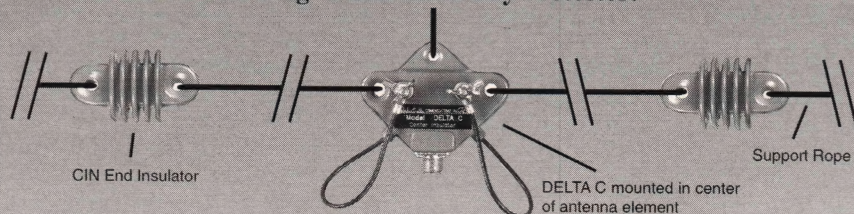
Doesn't the public have a right to know how their public servants are working and the city is spending tax dollars? By monitoring radio systems within one's jurisdiction, one can determine what their locality is up to. But if you live in Cleveland or a number of other cities now, you'll be left out in the dark!

I enjoy listening to the communications in my city. I monitor police, fire and municipal services. I want to know how my tax dollars are being spent. However, if my city ever gets a digital radio system, how will I ever know what is going on? Sure, certain communications need to be confidential, especially within the realm of law enforcement work, but is there really a need to hide what the sanitation department is doing on a daily basis? I sure hope not!

John Layton  
Allentown, Pa.  
(via the Internet)

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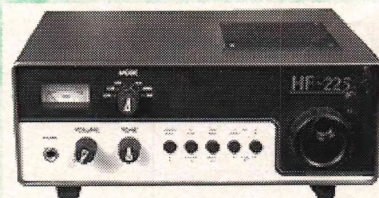
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# Uncle Tommy's Freaky Frequency Festival

## No Fooling! Try These Bizarre and Oddball Channels

BY TOM KNEITEL, K2AES, SENIOR EDITOR

If you have been around communications for a while, you undoubtedly have been told about—or discovered for yourself—any number of odd and interesting frequencies. Some eventually go on to achieve fame. Well, if not fame, at least a certain amount of tacky notoriety—like the cordless telephone and cellular channels.

But there are others, too. I like to collect them. I find out about these frequencies from friends (like you), see them written about in various texts, spot them in government documents, and I come across them while monitoring. While sorting through some recently collected data, I decided to share some with you. Information is for sharing, and *POP'COMM* is my place to accomplish this. You may know some of these frequencies, but there probably are many you haven't heard about yet.

### Get Out Pencil and Paper

Now, every single frequency here may not tickle your fancy or catch your imagination. And you aren't guaranteed of hear-

ing activity on any of the frequencies at a given time, or in a given location. Yet, the frequencies do exist to be used for particular purposes. That means someone's using them, somewhere. As such, they are worth knowing about.

Like 101.4 kHz. Yes, it's the low-frequency band. That's the transmitting frequency of the low-power equipment telephone companies use to detect buried electronic markers.

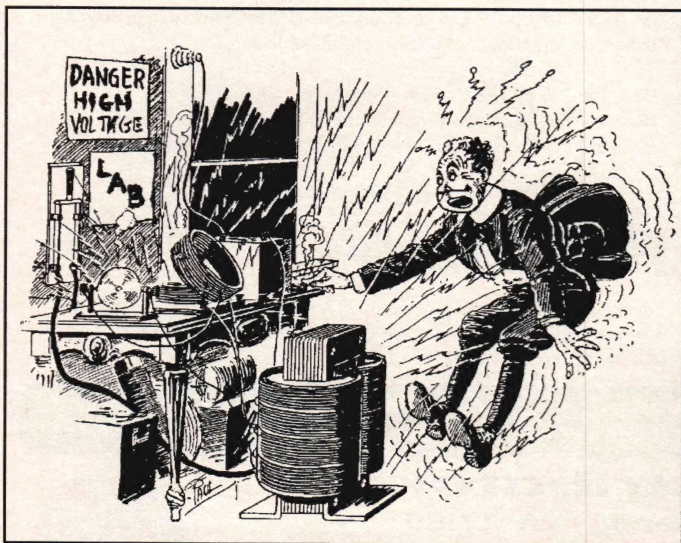
Certain frequencies are used for industrial, scientific and medical (ISM) purposes. These aren't communications devices or used for transmitting messages. ISM gizmos do emit RF energy when they are in operation, even though it's just strange noises. Because RF has the potential for causing horrific interference to communications services, the hope is that the devices will confine their RF energy to certain specific frequency bands.

ISM devices include things such as some industrial heating units, arc welders, electronic jewelry cleaners, humidifiers, induction cookers, medical diathermy, testing equipment, and who knows what other

hideous contraptions that are being devised and experimented within the world's secret research and development laboratories, even now, as you read this. The angry and dissonant *buzzes*, *whines*, *howls* and *hums* I have monitored on these frequencies lead me to believe that whatever it is all those young geniuses are up to behind locked lab doors, it definitely can't be good.

Listen to ISM for yourself! Highest activity appears the closer you tune to the center frequency. The HF ISM bands are 6765 to 6795 kHz (6780 kHz center frequency), 13553 to 13567 kHz (13560 kHz center frequency), and 26957 to 27283 kHz (27120 kHz center frequency). Note that the last of these bands covers the CB band from Channels 1 through 28, with the 27120 kHz center frequency popping up between CB Channels 13 and 14. For whatever it's worth, the new RF-signal-activated long-life light bulbs transmit 25-watt signals on 13560 kHz.

In the scanner region, there's an ISM band between 40.66 and 40.70 MHz (40.68 kHz center frequency). In addition



"...whatever it is those young geniuses are up to behind locked lab doors, it definitely can't be good."

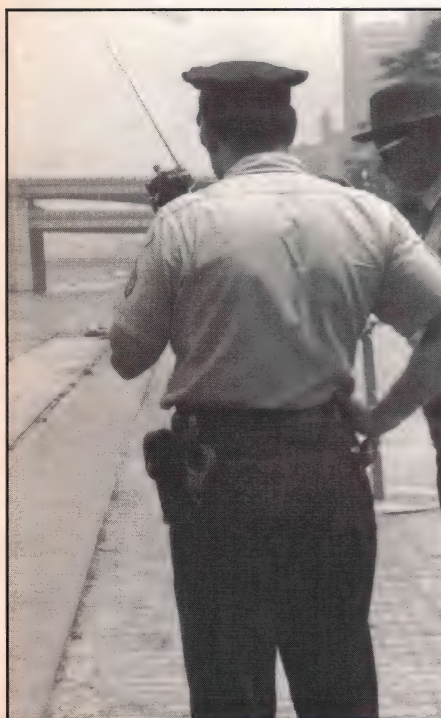


Because the ISM bands aren't normally monitored, they have become particularly attractive for bootleg comms networks, like deep-sea fishing boats.





One of the ISM bands covers most CB channels. That's why sometimes 27 MHz gets particularly noisy, especially around Channels 13 and 14.



Many frequency guides don't bother to list police and other public safety agencies using 39.06 MHz, which is a handheld channel. Take a listen there. Your local agencies could be on this frequency.

to ISM, this band also is used for telemetry signals from ocean buoys and wildlife tracking (this telemetry also operates from 216 to 220 MHz). More ISM activity is authorized between 902 and 928 MHz (913 MHz center frequency). The 902-928 MHz band also is used for field-disturbance sensors, such as those central alarm systems installed in homes, offices and stores.

The ISM frequencies seldom are monitored. That's why the 6-, 13- and 40-MHz ISM bands are at times put to use for all types of bootleg comms networks, including those

run by paramilitary groups, terrorists, deep-sea fishing boats and hobbyists.

## The Oily Bird Gets The Worst

From time to time, mention is made in print of frequencies used for containing and cleaning up oil spills. Still, you never find a complete listing of all of the frequencies that come into play when one of these disasters decides to take place.

Inasmuch as these things appear to take place with annoying regularity, it's a good move to keep a listing handy. The very least you can do for Mother Earth is to monitor as many cleanup frequencies as possible as they work to save our oceans, rivers and wildlife.

Mainly, you'll want to monitor 25.04, 25.08, 36.25, 41.71, 122.925, 150.980, 154.585, 156.850, 157.125, 158.445, 159.480, 454.000, and 459.000 MHz. These frequencies are where the big action is. Optionally, you could add U.S. Coast Guard VHF-FM channels, U.S. Fish and Wildlife Service and Environmental Protection Agency channels, plus your own state's wildlife and environmental conservation agencies' frequencies.

## More Oddball Stuff

The Federal Communications Commission allows public safety category (police, fire, forestry conservation, special emergency, local government and highway maintenance) agencies to establish special stations for developmental purposes—in attempt to develop some new concept that cannot be pursued via its regular communications system. Upon explaining their proposal to the FCC, a special authorization might be issued for their idea to be tried. The unusual frequencies especially designated for such uses are 31.995, 33.005, 33.995, 33.935, 30.005, 39.995 and 42.005 MHz.

And, speaking of public safety frequencies you don't hear much about, let's not forget 39.06 MHz. This is a 2-watt frequency and many agencies have handhelds licensed there. Because it is low power, 39.06 MHz listings don't always show up in frequency guides. That means scanner owners tend to put it out of their minds. It could well be used for surveillance in your own community, and you might not even know it's in use!

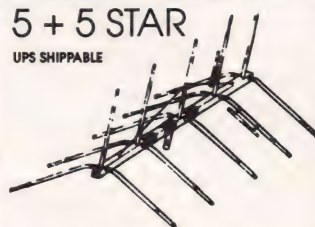
Public safety stations of all categories have available a group of 800 MHz band mutual aid frequencies. The calling frequency (repeater out) is 866.0125 MHz. After contact is made there, the stations switch to any one of four working frequencies, 866.5125, 867.0125, 867.5125 or 868.0125 MHz. Other non-trunked frequencies in the 800-MHz band for public safety stations are 854.9625, 854.9875,



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"Polya, this is Pound Post. Do you want us to QSL via the bureau?" (U.S. Army photo)

854.2125, 854.2375, 854.4625, 854.4875, 854.7125, 854.7375, 854.9625 and 854.9875 MHz. Repeater inputs in this band are all exactly 45 MHz lower (i.e. 854 MHz out, 809 MHz in). Other 800-MHz public safety frequencies are slotted for use in trunked systems.

## Get Down

Getting back to the low band, did you know that 38.00 to 38.25 MHz is set aside for radio astronomy? What do you think is going on there? ET calling home, cosmic noise, or what? Put your scanner into the search mode and take a trek to the stars!

There are other cosmic things in the low band, too. In Alaska, frequencies have been established for meteor-bounce communications. Base stations can beam their signals toward the heavens in order to reflect them off the tails of meteors, where they come down for use at remote sites.

The primary Alaskan base station frequency is 44.20 MHz (42.40 MHz secondary); the remote station primary frequency is 45.90 MHz (44.10 MHz secondary).

Getting back down to earth, we find that in the event American military ground forces cross paths with Russian ground

forces, they are supposed to contact one another by radio. This is slotted for 4125 kHz SSB (6215.5 kHz SSB alternate), or on VHF low band on 44.00 MHz (46.50 MHz alternate). Our forces are to use the ID "Post Pounder," while the Russians will ID as "Polya."

## Cough, Please!

You know how doctors love reserved parking? Well, the medical profession also has some permanently reserved frequency space. For instance, 150.775, 150.790, 152.0075, 163.250, plus the bands 462.9375 to 463.1875 and 467.9375 to 468.1875 MHz also have that familiar "reserved" sign hanging on them. The two 150-MHz freqs are used for handheld inputs to mobile repeaters. The 152- and 163-MHz channels are for paging. The UHF channels are for ambulance comms and low-power use.

Between 460.6625 and 460.8625 MHz (250-kHz steps) and 465.6625 to 465.8625 kHz (also 250-kHz steps) are 18 channels used in hospitals for biomedical telemetry. Electrodes are attached to a patient (for instance, for cardiac readings), and the electrode leads are fed into a small

battery-powered 100-mW telemetry transmitter worn by the patient. The readings then may be monitored at the nurses' station, without the patient having to be tethered to a bedside monitor.

In the VHF high band, there are three little-known channels available for land mobile (except business radio) use with 25-watt transmitters and narrowband (3.6-kHz bandwidth) modulation. These are 154.5025, 154.5275 and 154.5525 MHz.

## Is That You, Ivan?

Special VHF frequencies are allocated to enable aircraft flights over remote and oceanic areas to contact one another. Let's face it, when a pilot is flying in the middle of nowhere, and beyond the range of VHF ground stations, it might be of value to be able at times to make contact with other aircraft flying within 100 to 200 miles.

Over the North Atlantic, this is accomplished on 131.800 MHz, while in the Caribbean they use 130.550 MHz. Other areas (Pacific, Indian Ocean, Africa) use 128.950 MHz.

In the event of an unexpected confrontation between American and Russian military aircraft, the various participants



are supposed to initiate comms on 121.500 or 243.000 MHz, or 4145 kHz SSB (6215.5 kHz SSB alternate). Once comms have been initiated, they are supposed to switch over to 131.000 or 278.000 MHz or may remain on 4125 kHz SSB, for extended comms. Our aircraft get to use the tactical ID "Ivory Eagle," while the Russians are required to ID as "Sedlo." Our ID sounds like the title of a Tom Cruise movie and is really much better than theirs.

## All At Sea

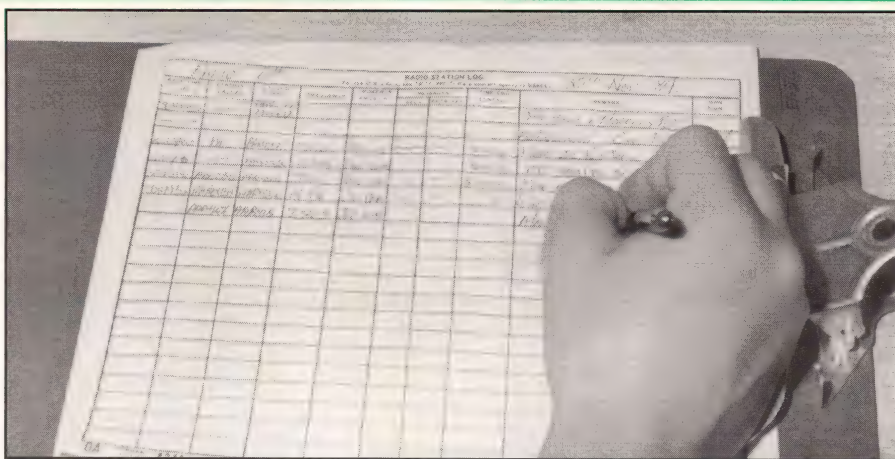
A meeting between a U.S. military vessel and a Russian one is supposed to be discussed between the two ships on 2182 kHz SSB, or 156.800 MHz. The U.S. vessel is supposed to ID as "Port Mast," and the Russian vessel is to ID as "Bugel."

Maritime radiodetermining, which appears to be a fancy way of saying marine radio direction-finding, transmitters have some special channels. They are 154.585, 159.480, 160.725, 160.785, 454.000, and 459.000 MHz. This is an odd conglomeration of frequencies, four of them being from the oil-spill group, and the two 160-MHz channels being railroad frequencies. What the heck is this all about?

Emergency Positioning Indicating Radio Beacons (EPIRBs) are most often found operating on 121.500, 156.750, 156.800, 243.000 and 406.025 MHz.

Large vessels could be equipped with repeaters for use with handheld transceivers used on board while at sea, and also on the piers while docked during cargo and loading operations. Four standard output/input channels are in use. These are: Channel 1, 457.525/467.750; Channel 2, 457.550/467.775; Channel 3, 457.575/467.800 MHz; and Channel 4, 457.800/467.825 MHz. Survival craft may be equipped to operate on 457.525 MHz.

In the Gulf of Mexico, offshore oil rigs



*Keep a detailed log of the odd stuff, then send it to us!*

near Louisiana, Mississippi and Texas have radio two-way comms with coastal stations established for their safety and convenience. Some frequencies used are reserved for emergency communications (voice and/or automatic alarms). The shore/rig frequencies for this are 476.950/479.950, 488.825/491.825, 488.850/491.850, 488.875/491.875, 488.900/491.900, and 488.950/491.950 MHz.

You may have heard odd signals between 216.880 and 217.080 MHz, peaking on 216.980 MHz. That would be the eerie Naval Space Surveillance System (NAVSPASUR). It radiates several billion watts of signal to form an electronic fence across the eastern and southeastern coasts, and into outer space.

Transmitters are in Texas, Alabama and Arizona, while receiving sites are established in various areas. All objects passing through the "fence" can be detected, and their exact locations determined. This information is sent to the U.S. Space Command's Space Surveillance Center at Cheyenne Mountain in Colorado.

Aircraft regularly are detected by NAVSPASUR, as are shuttle and satellite launches. The system is intended to detect any missiles traveling toward the nation, but it also senses falling space debris, meteorites, and—presumably—arriving UFOs!

The band 220.5525 to 220.5975 MHz (5-kHz spacing) is pegged for nationwide government use. Public safety agency mutual aid frequencies are being established every 5 kHz in the band 220.8025 to 220.8475 MHz.

Many people don't realize that the band 421-430 MHz is available in the Detroit, Cleveland and Buffalo areas for public safety and other two-way users.

Lastly, did you know what frequencies are used for measuring the characteristics of a material? Next time it comes up in conversation, tell them you read it happens between 890 and 940 MHz.

You may be discovering ones of your own all the time. Keep a log of every one you come across, then pass them along to us. If readers send in a sufficient number of listings, we will run them here. ■



*The medical profession has several frequencies and bands specifically earmarked for its permanent use.*



*Large vessels often have on-board UHF repeaters to be used with handheld transceivers carried by certain officers and crew members.*



# African DX Safari

## Tune In A Fascinating Continent With Ease

BY GERRY L. DEXTER

Africa, somehow, has a special fascinating power. For better or worse, the continent has worked its magic on our imaginations. Explorers, adventurers, romantics, nation builders, treasure hunters, storytellers, moviemakers and fortune seekers have gone there, returned, gone there, stayed. The majority of us, though, will never set foot there. Our African experience has to come from *National Geographic* specials, books, movies and—shortwave radio!

Africa offers the shortwave listener a listening/DXing feast unmatched by any other continent. The scope of music ranges from Arabic Koran recitations to highlife. There are dozens of languages on the air, including a fair amount of English broadcasts. For the DXer, African shortwave stations, in the main, range from easy to moderately difficult, so the challenge of hearing all the African countries active on shortwave is very much doable. That's what this article is all about.

Of the 50-plus African countries there are presently, only seven have been long gone from shortwave, probably permanently: the Cape Verde Islands, the Comoros, Gambia, Guinea-Bissau, Reunion Island and what used to be the ultimate DX catch—Tristan da Cunha. For all practical purposes, the Canary Islands also are silent. (See the listing just the same.) One or two other countries, such as Zaire, may not be active at any given time but the facilities still exist. The shortwave silence is usually temporary, often a question of money, politics or lack of interest from the current powers that be.

Listeners in North America's Eastern time zone enjoy the best reception from Africa, including reception of those on 60 meters as early as 1 or 2 p.m. local time during the winter months. DXers in the West can forget that kind of reception. Even at night, reception of lower frequency Africans will be tougher. DXers in the Midwest don't have the benefit or curse of either extreme; the best—and worst—of both worlds.

On our shortwave tour of the continent, we've assigned a "reception-ability" rating to each station to give you some sort of fix on how difficult it should be to receive. This rating is based on the use of a moderately priced receiver and an average, not-too-



**Radio Nacional  
Malabo**  
República de Guinea Ecuatorial

Sr. EMANUEL TAVARES FILHO  
Confirmamos su control de recepción  
Frecuencia: 6.250,00 KHz.  
Fecha: 18 DE ENERO DE 1.992.  
Hora: 20,30 - 21,02 H. UTC.

**Q  
S  
L**

Try 6250 at 0500 for Radio Equatorial at Malabo (formerly Radio Nacional Malabo).

terrific antenna in a Midwest location. A three-star station will be easier to hear than a one-star station. Your personal situation may make a station easier or more difficult than our rating suggests.

There are a couple of countries that have both a local shortwave station and an international relay. In these cases we've chosen the local station because they have more flavor.



**RADIO DIFFUSION  
NATIONALE  
TCHADIENNE**

REPUBLIQUE DU TCHAD

Chad signs on at 0425 on long-used 4904.5.



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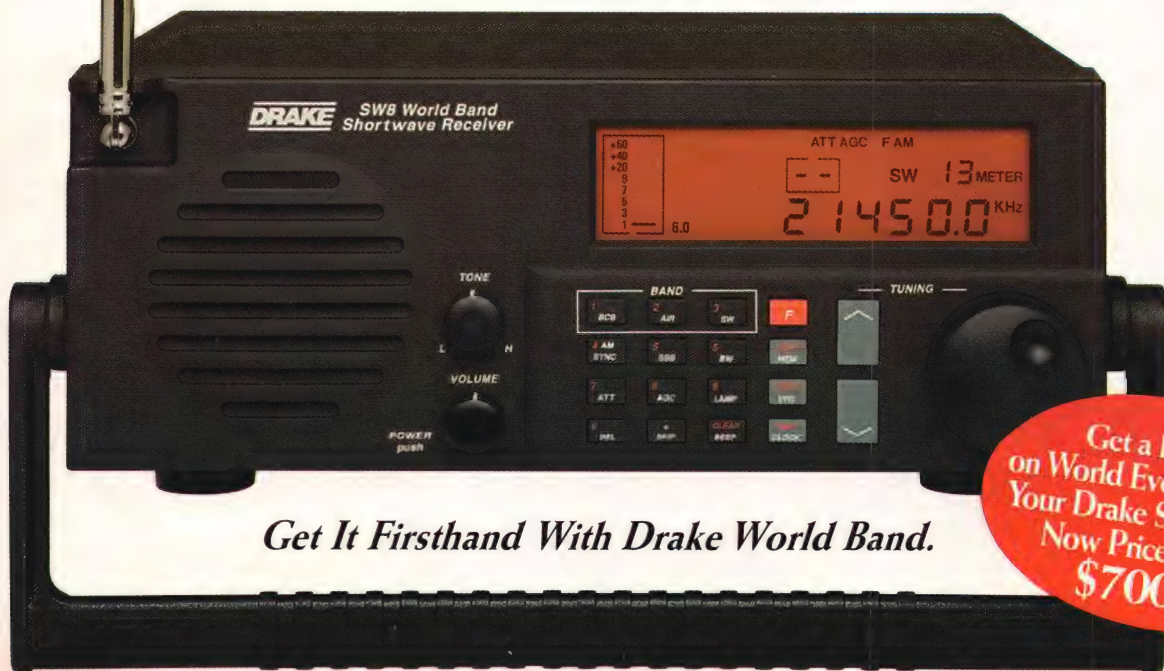
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الإذاعة الموريتانية

**RADIO-MAURITANIE**



Mauritania is a late-night regular on 4845.

All right, let's get our bearers lined up, put on our pith helmets, climb aboard the Jeep and set off on the trail.

**ALGERIA**—Radiodiffusion Algerienne, or Radio Algiers, is one of the rare African stations that does not operate on any of the tropical bands. The station is a moderately difficult catch during its various foreign language services. Try English from 1500-1600 on 11715 or 17745, followed by an hour in French. Another pretty good bet is the hour in Spanish from 2300 on 9640 and 15215. Also the French service on 15160 from 1800-2000. Algeria's frequencies tend to vary slightly. (\*\*)

**ANGOLA**—Radio Nacional, the government's main station in Luanda is sometimes a pretty good performer, especially during the winter months. 9535 and 11955 are good frequencies to check during the afternoons. 4950, variable, sometimes can be caught in the evenings, say around 0400. (\*\*) A regional outlet, Emissora Provincial de Benguela, in the city of that name, is active on variable 5015, but it is tougher. (\*)

**ASCENSION ISLAND**—Several international broadcasters use the BBC-owned relay station here, including the Voice of America, Radio Canada International and RAI, Italy. The BBC via Ascension can be found on frequencies such as 6005 (logged around 0500), 9600 (around 0700), 11750 (2100), 11835 (2200), 11855 (2000), 15400 (0700), 17830 (1900) and 21660 (1500). (\*\*\*)

**BENIN**—Office de Radiodiffusion et Television du Benin (ORTB) from Cotonou is not a station you probably can hear every day, but its 30-kW transmitter makes it audible at least 70 percent of the time. Sign-on is just shortly before 0500 on 4870. Like many of the West Africans, during the winter months, East and Midwest listeners probably can hear them until sign-off at 2300. Broadcasts are in French. (\*\*)

**BOTSWANA**—Radio Botswana, famous for the barnyard sound effects it uses for an interval signal (all man-made, by the way) uses three shortwave frequencies: 3356, 4830 and 7255, all of which are listed for 0255 sign-on. This start time, however, usually is earlier, with the interval signal beginning as early as 0245. 4830 is usually blocked by Radio Tachira, Venezuela. (\*\*)

**BURKINA FASO**—Radiodiffusion Nationale du Burkina, usually shortened to simply "Radio Burkina" for on-air use, operates a 50-kW transmitter from Ouagadougou, the capital, on 4815 and signs on in French at 0530. During winter months, DXers in the East and Midwest will be able to follow this one from mid-afternoon until sign-off at 0000. (\*\*)

**BURUNDI**—The government station, Radio-Télévision Nationale du Burundi, activated its 100-kW transmitter on 6140v a year or so ago. This one sometimes is

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**FROM THE STATION ON THE EQUATOR**

**QSL**



Ref. No. \_\_\_\_\_ Date 7/6/85

We confirm with pleasure your reception report of our transmission in ENGLISH on the 17/85 at the following times 21 40 GM

The transmission was carried on 9.36 MHz. 11765 KHz. and this was our Features programme.

You may like to listen to our other transmissions carried on Kilohertz:-  
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 4855/7295; 9665/11765.

*Best regards from E.K. TIAMPATI*

The tough-to-hear Voice of Kenya's QSLs are printed on an air-letter.



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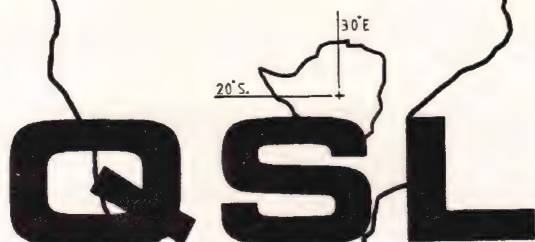
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SIGNED: *Wabona*

*Zimbabwe Broadcasting Corp. resumed shortwave broadcasts last year and has several active channels.*

hearable at sign-on in French around 0400, but suffers from the usual interference problems typical of this crowded band. It's likely you'll have to make at least several attempts before you're successful in bagging this one. (\*)

**CAMEROON**—The shortwave stations once active in Cameroon are in a bad state. Information on the status of these stations is uncertain, but most seem to be off the air, including Buea-3970, Bafoussam-4000, Bertoua-4750 and Douala-4795. It's not even certain whether the main station at Yaounde is active. Check 4850 for that one at 0430 sign-on in French. Another possibility is the outlet from Garoua on 5010, also with a 0430 sign-on, however, neither of these have been reported in awhile. (\*\*)

**CANARY ISLANDS**—Normally, this is a dormant shortwave broadcast country. However, you might try for an oddball upper sideband relay of programming from the Cadena SER network which one monitor spotted on 6920 about 2330 last fall. Otherwise, this country is a zero as far as SWBC DX possibilities are concerned. (\*)

**CENTRAL AFRICAN REPUBLIC**—Radiodiffusion-Télévision Centrafricaine, at Bangui, is a moderately easy catch on 5034, when it signs on at 0430 in French. (\*\*)

**CHAD**—Radiodiffusion Nationale Tchadienne is in the same reception category as the Central African Republic (or, for that matter, most of the French-speaking West Africans). It still operates on long-used 4904.5 and signs on at 0425 in French. (\*\*) If you want a little heftier challenge, try Radio Moundou, in the town of that name, which signs on at 0500 on 5286. (\*)

**CONGO**—Radiodiffusion-Télévision Congolaise is operated, in rather spotty fashion, by the government. There are periods when the station doesn't seem to be active and others when only one of the five or six frequencies listed actually are in use. Obviously, this one probably will require repeated checks. Try 4765 (or 5985, but interference will be heavy) from 0400 sign-on. In times past, 15190 has been noted in French between 1100 and 1400 but its status is unknown. (\*\*)

**COTE D'IVOIRE** (Ivory Coast)—Radiodiffusion Télévision Ivoirienne, from Abidjan, most often is heard on 4940 from

0455 sign-on in French. Forget any reports you may have seen of a 500-kW international service outlet on 11920. It hasn't been active in a long while, at least that we know of. This station has the dubious distinction of being the worst QSLer on the continent, despite the fact that they have a QSL card complete with ham lingo, which indicates they understand the game. (\*\*)

**DJIBOUTI**—Doubt surrounds the current status of Radiodiffusion-Télévision de Djibouti. It has had several off-and-on spells in recent years. When it is active, it is a tough catch because of the interference usually present on its 4780 dial spot. Sign-on is at 0300 in French. (\*)

**EGYPT**—Radio Cairo is a no-sweat log. Just dial up 9475 at 0200 for its English to North America broadcast. A broadcast in Arabic to North America runs most of the evening on 9900. (\*\*\*)

**EQUATORIAL GUINEA**—This really is two countries—Rio Muni (the station at Bata) and Fernando Poo (Malabo)—according to the country list of the North American Shortwave Association (NASWA). Radio Nacional de Guinea Ecuatorial runs both sites. Rio Muni operates on 5004 (sometimes 4926v) signing on in Spanish at 0430. Radio Nacional at Malabo signs on at 0500 on 6250, also in Spanish. Of the two, Malabo usually is a bit easier to snag. (\*\*)

**ERITREA**—The Voice of the Broad Masses of Eritrea was born as a clandestine station years ago, supporting the Eritreans' war effort against Ethiopia. With Eritrea now an independent country, the station is now the official voice of the Eritrean government. It can be heard with sign-on at 0330 on 7380. A different program goes out at the same time on 7020, which you may find a bit easier since the

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*Radio Togo is a solid performer on 5047 from 0500 sign-on.*

7380 area may suffer from more QRM. Various local languages are used. (\*\*)

**ETHIOPIA**—Radio Ethiopia from Addis Ababa is best heard on 7110 from 0330 sign-on in Amharic. A none-too-easy exter-

nal service is active on 9560 from 1300 to 1800 in various languages, including English at 1600. (\*\*)

**GABON**—Radiodiffusion Television Gabonaise, Libreville, can be heard on both

the 60- and 41-meter bands, both running 100 kW. 4777 comes on the air at 0455, 7270 at 0800, both in French. (\*\*) Of course, Gabon also has Africa Number One, which is hard to miss if you check 9580 in the afternoons. (\*\*\*)

**GHANA**—Ghana Broadcasting Corp. has long kept a steady hand on 4915, with a 0440 sign-on and a newscast in English at 0600. (\*\*\*)

**GUINEA**—Radiodiffusion Television Guineenne, Conakry, uses 4910, signing on at 0600 (0800 Sundays) with broadcasts in French. (\*\*)

**KENYA**—Kenya Broadcasting Corp. is heard quite frequently in the Eastern part of North America, considerably less so in the Midwest and is quite rare in the West. 4885 and 4935 both sign on at 0200. (\*)

**LESOTHO**—The Lesotho National Broadcasting Service (LNBS) has a single shortwave frequency (4800) on which operations begin daily at 0300, broadcasting in English and the local SeSotho language. (\*\*)

**LIBERIA**—Missionary station ELWA has resumed activity after the civil war put it off the air. Check 4760 from 0600 (may be active only on Saturdays/Sundays). (\*\*)

**LIBYA**—Libyan Jamahiriya Broadcasting uses 15415 mostly for its "Voice of the Great Homeland" service in Arabic from 1000 to around 0400, except for a couple

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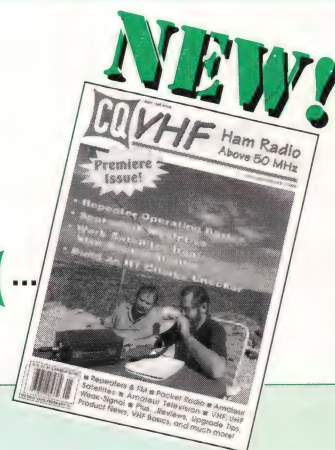
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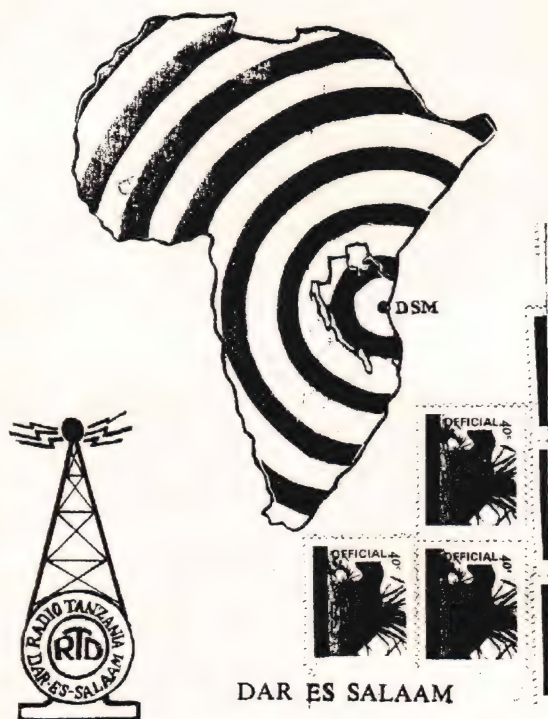


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## RADIO TANZANIA



*Radio Tanzania is a toughie. Check 5050 at 0300 for the sign-on.*

of breaks for foreign-language programs. 15235 and 15435 also carry the "Home-land" service. 11815 carries the home service from 0500 to 2350. (\*\*\*)

**MADAGASCAR**—Radio-Television Malagasy (Radio Madagasikara) sometimes is loggable on 3281 or 5005 (both variable) from 0200 sign-on (0300 weekends) in the Malagasy language. It is tougher to log than you might expect, given that both transmitters are rated at 100 kW. (\*)

**MALAWI**—Malawi Broadcasting Corp. uses 3380 and 5995. The former frequency offers the best shot, from sign-on at 0255. 90 meters is an even more temperamental band than 60, so you should expect to make any number of tries before you hear this one. The broadcast begins with a newscast in English. (\*)

**MALI**—Radiodiffusion Television Malienne most often is heard on its 4783 and 4835 frequencies, from 0555 sign-on in French. Like many other 60-meter Africans, it can often be heard during the wintertime at the other end of the day, signing off at 0000. (\*\*)

**MAURITANIA**—Radio Mauritanie, Nouakchott, operates on 4845 and 7245, signing on the former at 0630 Sundays through Thursdays and Fridays at 0800 on 7245 in French and Arabic. (\*\*)

**MOROCCO**—Radiodiffusion-Television Marocaine offers pretty reliable daytime signals on 16 and 19 meters. 15330

is active with Arabic from 1700-2100, 15345 from 0945-0100 and 17595 from 1400-1700, the first hour of the latter in English. (\*\*\*)

Radio Mediterranean International (or Radio Medi Un) is counted as Spanish Sahara on the NASWA Country List, because the actual transmitter site is within the boundaries of that former country. Try 9575 in French and Arabic from 0500 to 0100. (\*\*)

**MOZAMBIQUE**—Radio Mocambique is no easy catch. Much depends on general propagation conditions and time of year. The most often-reported frequencies are 3210, 3338, 4855, 4867, 4910 and 7113 (all variable) from 0250 sign-on, in Portuguese. Another possibility is 9618 from 0400. (\*)

**NAMIBIA**—Namibian Broadcasting Corp. is best heard on 3270 at 0400-0600 and 3290 from earlier in our evening to 0600. Broadcasts during these hours are in Afrikaans and German. (\*\*)

**NIGER**—La Voz du Sahel isn't too difficult a catch on 5020 from its 0430 sign-on in French. (\*\*)

**NIGERIA**—Despite the sorry state of the broadcasting facilities in this country, a couple of outlets continue to be reliably heard. The Voice of Nigeria international service on 7255 signs on in English shortly before 0500. Also try Radio Nigeria from Kaduna on 4770, with a 0400 sign-on and

programming in Hausa and English. (\*\*)

**RWANDA**—Like the rest of the country, the government's Radio Rwanda suffered during the civil war. Although back on the air now, it isn't as easy a catch as it was before the war when it briefly had an international service on 19 meters. Check for Radio Rwanda on 6055 from 0400 sign-on in French.

**SAO TOME**—This once-active short-wave country has long been silent. But it probably has returned to the shortwave scene now, as host to yet another Voice of America relay station. There are four 100-kW transmitters in use. An initial, tentative schedule: 4785, 4860, 4895, 4950 between 0800-1600; 13680 from 0600-1800; 13710, 0800-1545; 13740, 0600-1600 and 13770, 0600-1000.

**SENEGAL**—Radiodiffusion Television du Senegal used to be a very easy catch with its late-night use of 4890. But they've discontinued using that frequency at that time so you have to catch them in the late afternoon/early evening, to the 0100 sign-off, which pretty much restricts logs to the East and Midwest. For better results, try 7170 from sign-on a couple of minutes before 0700. (\*\*)

**SEYCHELLES**—Far East Broadcasting Association (FEBA) is a religious broadcaster programming to Africa and Asia. Many frequencies and times are in use. Try English from 1458 to 1600 on 9810 and 11870. Various languages are used during much of our morning on frequencies such as 9865, 11675, 11875, 15445 and others. Listen for the interval signal, "What a Friend We Have in Jesus." (\*\*)

**SIERRA LEONE**—The Sierra Leone Broadcasting Service occasionally is logged on 3316 from 0558 sign-on. This station has seemed to operate more sporadically in recent years so it may or may not be active at any given time. (\*)

**SOMALIA**—The on-going problems here have had their effect on the radio scene. Only two or three very low-power stations are active: Radio Mogadishu is using 6968 variable from 0400 sign-on; Radio Mogadishu, the Voice of the Somali People, is listed for 6840v at 0330 sign-on. Don't hold your breath. (\*)

**SOUTH AFRICA**—Hearing Channel Africa usually is no problem. Try English from 0300-0500 on 5955 and 9585, 0500-0600 on 7185 and 11900, and 1500-1800 on 7155 and 9530. (\*\*\*)

**SAINT HELENA**—Radio Saint Helena on this tiny island north of Ascension, off Africa's west coast, makes a one-day appearance on shortwave every year or two! The next one comes on Oct. 26, so mark your calendar! Radio Saint Helena's last appearance in 1994 ran from 2000-2300 on 11092.5. Chances are the same frequency will be used and the schedule will be quite close to last time. The broadcasts are relayed by the local utility station. The



date, by the way, is a Saturday, so you probably won't have to dash home from work or play hooky from school. (\*\*)

**SUDAN**—Radio Omdurman isn't that hard to hear. The trick is in picking the right frequency. 9024 (or 9025) sometimes is in use during the 1400-1500 period, as well as at 0255 sign-on. 9200 also sometimes is used, or used instead. An opposition station—the Voice of Sudan-Voice of the National Democratic Alliance—operates on 9000 and sometimes the government station slips down to that area in an attempt to confuse things. 7200 is active from 0300 in Arabic. (\*\*\*)

**SWAZILAND**—Trans World Radio's station here can be heard on 3200 in local languages, plus German and English, from 0300-0600, with a brief break at 0330. Other possibilities include 5055 in German and English 0400-0500 and 7140 from 0400. (\*\*)

**TANZANIA**—Radio Tanzania was putting in good signals with its use of the Meyerton, South Africa, transmitter site, but a log of that wouldn't count as Tanzania. It apparently is (or was) not a permanent arrangement anyway. So, we need to try 5050 from 0300 sign-on. And we need plenty of patience! (\*)

(Zanzibar) Part of Tanzania, though regarded as a separate country on the NASWA list. Zanzibar has been showing on 11734, running to 2000 close, in Swahili. (\*)

**TOGO**—Radiodiffusion Togolaise (Radio Togo), has occupied 5047 for decades. It signs on at 0500 and runs to 0000 in French. (\*\*\*)

**TUNISIA**—Radiodiffusion Television Tunisienne, is best heard on 7475 from 1700-2330 and 0400-0600; 12005, ditto, and 17500 from 0600-1700, all Arabic. (\*\*\*)

**UGANDA**—Radio Uganda gives most of us reception problems. 4976 carries the regional service in English and various other languages from 0300. 5026 has the national program from 0300. Inadequate propagation and interference-prone frequencies usually make reception quite difficult. (\*)

**ZAIRE**—La Voix du Zaire is another of those stations in disrepair, consequently making only sputtering appearances on shortwave. 15244 was noted some months back around 2000, but apparently is gone again. (\*) As an alternate, try Radio Candip, 5066 from 0330 sign-on. (\*)

**ZAMBIA**—Zambian National Broadcasting Corp. (ZNBC) uses 4910v for its Radio One service in local languages from 0245 sign-on. (\*\*)

**ZIMBABWE**—Zimbabwe Broadcasting Corp. resumed shortwave activities last year, with new 50-kW transmitters. Check 3306 and 4828 from sign-on at 0300 or a little later. (\*\*)

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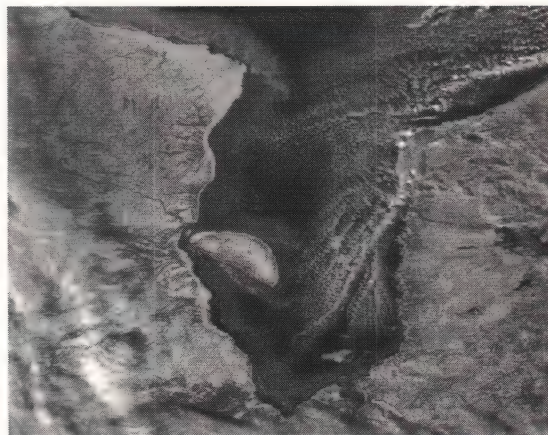
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# WJAZ: It Was One Of A Kind!

## *Even For the Wild and Woolly 1920s, There Was Never A Dull Moment*

BY ALICE BRANNIGAN

Let's zero in for a close look at a unique broadcaster that managed to stay in the news media throughout most of the 1920s. It began simply as ham station 9ZN, owned by R.H.G. Mathews of Chicago Radio Laboratory, Chicago, Ill. CRL was a small manufacturer of ham equipment. In 1923, it held a 20-watt broadcast station license with call letters WJAZ.

Mathews teamed up with Gene McDonald, and they decided in 1923 to make WJAZ an upscale 1-kW station. Mathews' ham station already had an elaborate fan-type antenna. This station was located in a wooden shack at 5525 Sheridan Road, a few hundred feet from the beautiful Edgewater Beach Hotel. The hotel, therefore, was selected as the site for the 1-kW station, which could use the existing antenna.

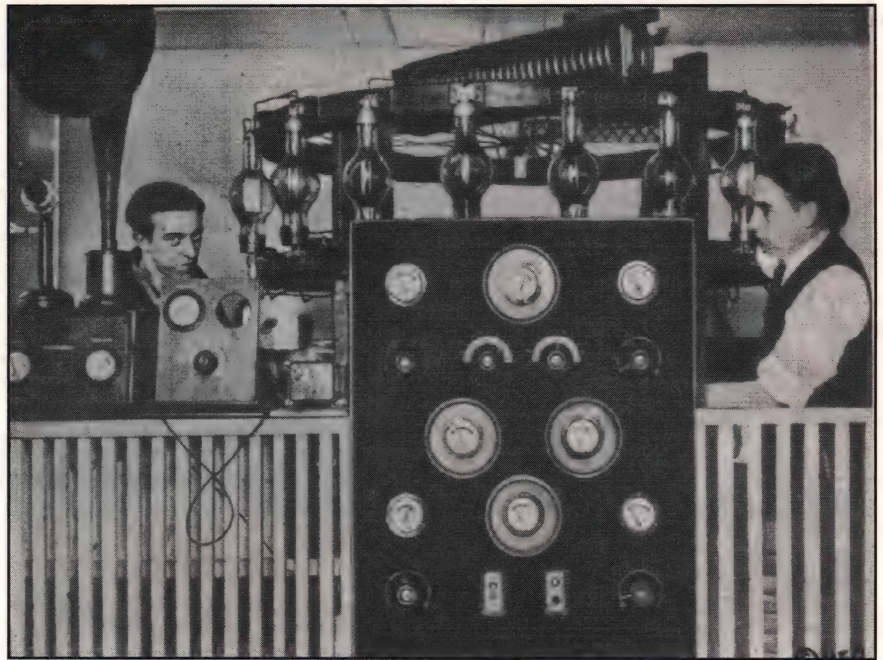
Known as WJAZ, the Zenith-Edgewater Beach Station, it operated on 670 kHz. With its studio on the main floor, it was possible for the public to peer in through the plate-glass windows and watch programs in progress. While the WJAZ studio was being installed, the Chicago Tribune announced that it also would be moving its station, WDAP, to the Edgewater Beach Hotel from the Drake Hotel. WDAP's antenna would be a 135-foot tower on the roof of the hotel.

By early 1924, Gene McDonald checked WJAZ out of the Edgewater Beach Hotel. The WJAZ studio and transmitter were sold to WDAP. WDAP changed its call letters to WGN and began using the former WJAZ facilities on March 24, 1924.

McDonald claimed that because WJAZ was in the midst of a residential area, it caused too much interference to local reception. He proposed to find a new location for WJAZ where he could build an isolated broadcasting station that would not interfere with reception of other stations more than reasonably possible. The studio would be located in Chicago, and linked to the transmitter by landline.

### **Wanderlust**

In September 1924, WJAZ was being installed in a Federal truck for use as a portable station. Its announced mission was to drive around seeking out breaking



*Here's the original WJAZ transmitter, back when it was first used for the Edgewater Beach Hotel phase of its existence.*

news stories, and also scouting a new permanent location for WJAZ.

The portable version of WJAZ had a 100-watt transmitter operating on 1120 kHz. The transmitter had four 50-watt tubes, two in a Hartley oscillator circuit, two providing Heising modulation.

The antenna mast was a sectional type that could extend to 53 feet tall. The mast supported four heavily braided copper wires that were extremely flexible. The wires were fitted with snap hooks at each end to rings that fastened to two spreaders. Clips were used on each spreader for the connections.

In addition, there was also an antenna that could be sent 80 feet aloft by means of a hydrogen-filled balloon. The battery supply was 24 volts with a total of 320 ampere hours. It could be charged from the vehicle's power supply, run by a gasoline-driven 24-to-1,500-volt DC-filtered generator. There were several microphones, and enough cable to permit carrying the mic away from the vehicle up to 300 feet.

On Sept. 22, 1924, the U.S. Radio Inspector checked out portable WJAZ and gave his seal of approval.

### **On The Road**

WJAZ rolled down the highway making friends, giving concerts and vaguely hinting to citizens everywhere that their town might well be WJAZ's next home. The Elkhart, Ind.'s Nov. 4, 1924 edition of *Truth* carried a headline reading, "Radio Concert Sent From Here, Experiment Proves a Success; City Said to be Favored as Permanent Site."

By mid-November, more than 20 towns had been visited, with WJAZ attracting enthusiastic crowds numbering as high as 800. The Danville, Ill., *Commercial News* of Nov. 10 welcomed WJAZ, noting that the only local broadcast music in Danville occasionally came from Joe Fairhall's ham radio on South Gilbert Street. They wrote:

"Several programs have been put out by station 9VV, but it is not a regularly li-





A close view of the way the mobile station looked. Notice the word *Zenith* on the side panel. That's Jack Dempsey, heavyweight boxing champ, posing with the vehicle in California when it was touring the nation as WSAX. (Courtesy Alan Douglas)

censed station. While a most efficient amateur station, it has not the plant nor the output that the portable transmitting station WJAZ, the Zenith Corp., is sending over the country, seeking a new location."

Stores sponsored the WJAZ visit to their communities, realizing that crowds meant sales. It drew 1,000 people to Escanaba, Mich., where it was installed in the L.K. Edwards showroom. Classes from the schools were invited to watch it being tuned up, and the balloon antenna being raised.

WJAZ had gone to Escanaba especially for the solar eclipse. Zenith was curious to learn whether an eclipse would affect radio, so the company announced that \$2,000 worth of radios would be given away, one set per night for a week, for the farthest DX report each night. The Western Union office was swamped under with telegrams from Nebraska, North Carolina, Wisconsin,

Oklahoma, Virginia, Georgia and South Dakota. One came in from Miami Beach, Fla.

## The Search Ends

In mid-1925, WJAZ finally found a new home. As a result of the ramble through the countryside seeking out new rural vistas, a 1.5-kW transmitting plant was put up at the intersection of Central Road and Mount Prospect Road in Mount Prospect, Ill. Luxurious new WJAZ studios were established on the 23rd floor of Chicago's Straus Building.

The government had in mind that WJAZ would operate only two hours a week, sharing time on 930 kHz with Denver's KOA. McDonald didn't like those arrangements. Therefore, he sought permission to shift WJAZ to 910 kHz when it wasn't in use.

## RADIO CONCERT SENT FROM HERE.

*Elkhart, Ind. with*  
Experiment Proves a Success;  
City Said to be Favored  
as Permanent Site.

*Nov 4, '24*

"Elkhart as a possible location for a broadcasting station ranks among the best of the cities in which we have experimented," R. H. G. Matthews, head of the Zenith Corporation's portable broadcasting outfit, said following a program given from the Conn plant last evening. During and following the concert the Elkhart participants, headed by James F. Boyer, were flooded with telephone calls and congratulatory messages, not only from Elkhart radio enthusiasts but from other cities within a radius of 50 miles.

"We received more than 3,000 telephone calls for the Conn plant during the two hours of the program and the calls came in so fast that we had to ask the Conn people to open the switchboard so that we could at least try to take care of the calls," said Mack, chief of the Elkhart radio club.

The mobile WJAZ broadcast station received intensive newspaper coverage, and the station became quite well known.

He was refused because 910 kHz had been allocated as a Canadian clear channel. When it turned up on 910 kHz anyway, the Department of Commerce branded WJAZ a pirate. McDonald reveled in the appellation, using it in WJAZ's publicity.

The Department of Commerce often warned small stations not to jump frequencies without permission, but such admonishments were seldom backed up with enforcement actions. This particular situation was hard to overlook inasmuch as news coverage made WJAZ nationally famous. The station had the audacity to appropriate a prized clear-channel frequency.

Also, the Canadian government was annoyed. In order to assert its authority, the Department of Commerce had no choice but to bring suit against rebellious McDonald and his misplaced station.

## A Test Case

Small broadcasters had long felt the Department of Commerce had been making law by administrative fiat. Sooner or later, the agency's right to regulate inevitably was going to be tested by some broadcaster. McDonald was the one who stepped forward to test that right, defiantly refusing to vacate 910 kHz.

The Department of Commerce was aware that the law was inadequate, and was favorable to the WJAZ matter becoming a test case. Secretary of Commerce Herbert Hoover had long campaigned in Congress without success for better regulatory powers over broadcasters. He saw this case as the stepping-stone to secure the clout he needed.



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- Max scan rate, user adjustable
- Scan by radio or computer
- Unattended frequency monitoring by time and date
- Lockout unwanted signals
- Rearrange all freq. in any combination by click/drag or entry

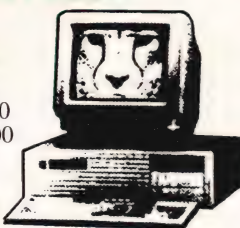
Bank	Bank #	Name	Mode	Low	High	Step	Auto	Att	Power	Class	Service
1	1	CVT AIR	FM	118.0000	137.0000	0.0010	ON	0	0.0000	P25	
2	2	MIL-AIR	FM	122.0000	137.0000	0.0010	ON	0	0.0000	P25	
3	3	1542	FM	118.0000	137.0000	0.0010	ON	0	0.0000	P25	
4	4	SAVING	FM	118.0000	137.0000	0.0010	ON	0	0.0000	P25	
5	5	1542	FM	118.0000	137.0000	0.0010	ON	0	0.0000	P25	
6	6	1542	FM	118.0000	137.0000	0.0010	ON	0	0.0000	P25	
7	7	1542	FM	118.0000	137.0000	0.0010	ON	0	0.0000	P25	
8	8	1542	FM	118.0000	137.0000	0.0010	ON	0	0.0000	P25	
9	9	1542	FM	118.0000	137.0000	0.0010	ON	0	0.0000	P25	
10	10	1542	FM	118.0000	137.0000	0.0010	ON	0	0.0000	P25	

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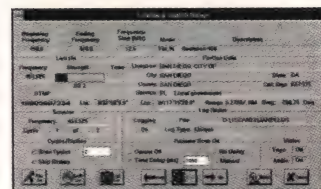
1. Enter any one frequency and increment up-down from that point.
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- NEW slave-master scanning with CIV protocol, scan on your receiver and all hits are transferred to the slave receiver for monitoring.



• NEW minimize window allows viewing of freq status while in any other WINDOWS or DOS application.

## Computer Interface

### for the AR8000 & AR2700



Unlike some of the European devices sold today, this unit is smaller, lighter, and makes no power demands on your receiver. With the extra shielding and smaller size there is less chance of additional interference leaking into your radio. The AR8000INF is also the only interface that is upgradeable for use with the optional Tape recorder controller due first quarter '95.

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- Totally computer controllable.
- Local and remote control of all functions.
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- Triple conversion to reduce imaging.
- Multi-Receiving modes covers today's data and voice communications.
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- Small, lightweight (approx. 8.5" W x 3.5" H x 10" Deep)
- SDU5000 compatible

#### **AR5000 Specifications**

**Frequency Range:** 10kHz - 2,600MHz  
**Receiving Mode:** FM, AM, LSB, USB, CW, Special I.F. Bandwidth: 3kHz, 6kHz, 15kHz, 40kHz, 110kHz, 220kHz, 0.5kHz (Opt.)  
**Triple Conversion: I.F.** 622.2, 10.7 & .455MHz  
**Frequency Stability:** ±1ppm (0 to 50C) ext OSC jack  
**Antenna Impedance:** 50-Ohm (N, BNC)  
**Programmable Step:** 1Hz to 999,999kHz  
**Search/Scan Speed:** 50 steps/second (less than 100kHz steps)  
**Power Supply:** DC 12V, (<1A) 120VAC adaptor incl.



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**AR8000 shocks the market. AOR made every effort to incorporate the latest technology in to this new scanner.**

#### **• SPECIFICATIONS •**

- **Range:** .5 - 1900MHz\*
- **Modes:** AM/NFM/WFM/USB/LSB/CW
- **Stepsize:** 50Mz to 999.995kHz
- **Sensitivity(μV):** 30 to 1000MHz SSB .25 AM 1.0 NFM .35 WFM 1.0
- **Filters:** (kHz) SSB 4 AM/NFM 12 WFM 180
- **Memories:** 50 ch. x 20 banks= 1000 total
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- Ferrite Rod antenna below 2MHz
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The new AR 2700 from AOR is another break-through for general coverage scanners at an affordable price.



#### **• FEATURES •**

**Wide frequency range:** 500kHz to 1,300MHz with various step size, 5, 6.25, 9, 10, 12.5, 20, 25, 30, 50, & 100kHz (wide FM only).

**Auto Mode tuning:** Comprehensive band plan has been pre-programmed to simplify the operation. The AR 2700 will automatically select the appropriate mode and channel step.

**Great flexibility in programming:** for Scan and Search mode. Delay, Pause and Priority intervals can be set to a specific value. Program search, Manual search, Bank link, Delay, Pause, Pass, Scan, Bank delete, Priority are provided.

**High Capacity:** 500 channels into 10 banks and 10 search banks.

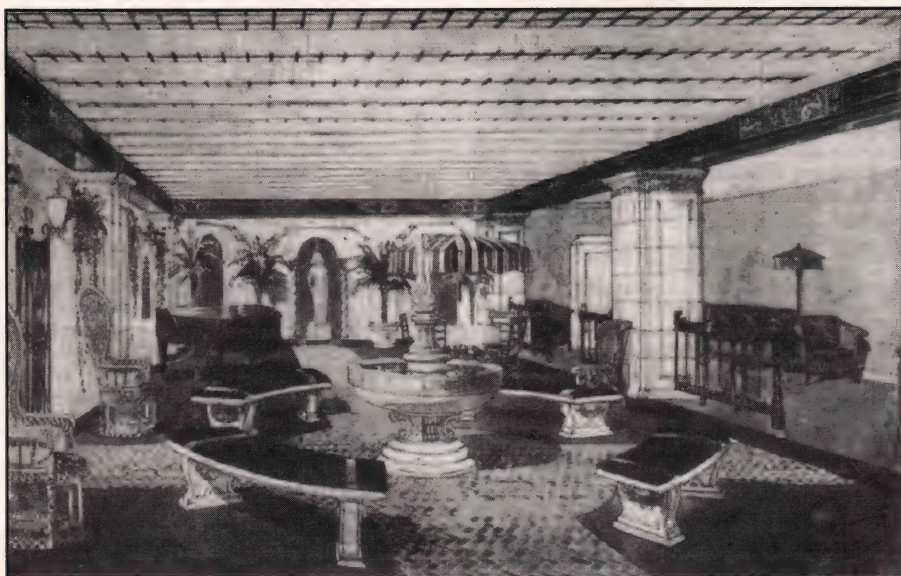
**Optional Digital Voice Recording:** 20 seconds of digitized recorded conversation and playback through the use of the RU-2700 option.

**Computer control port** may be connected via an optional adaptor to a computer for remote control of the AR 2700.



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The WJAZ studios in Chicago's Straus Building looked like this. Notice the water fountain in the center.

To Hoover's dismay, the court ruled in favor of WJAZ, declaring the Radio Act of 1912 never bestowed powers upon the Department of Commerce that the agency so freely exercised. Furthermore, the agency was advised that, "inasmuch as

broadcasting had developed entirely after the 1912 Act, present legislation is inadequate to cover the art of broadcasting."

George Douglas' book *The Early Days of Radio Broadcasting* (McFarland & Co., N.C., 1987) observes that this mid-1926 decision made the problem of channel jumping all the worse. Suddenly, pirates were everywhere. New licensees were coming on the air at a rate of five per week. Given the limited number of available channels and the quality of the receiving equipment, in many metro areas listeners could hear nothing more than babble. Sales of radios dropped off, and it seemed as though broadcasting was rapidly wearing out its welcome.

The WJAZ test case decision had triggered an amazing situation in early broadcasting—no doubt about that.

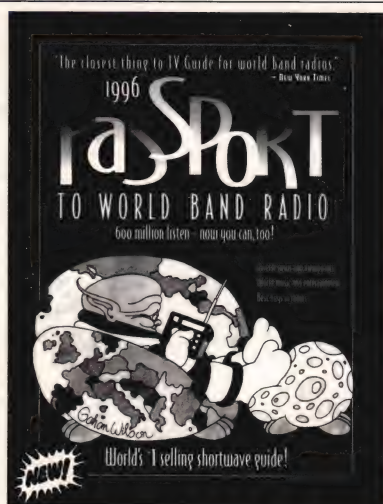
Hoover had watched Congress earlier vote down nine radio bills. In December 1926, President Calvin Coolidge urged passage before broadcasting drifted into such a state of chaos that its great value would be destroyed. On Feb. 28, 1927, the Radio Control Bill was signed into law. It created the Federal Communications Commission, and the Radio Act of 1927.

Under the FCC, WJAZ was directed to operate with 5 kW on 1140 kHz. When the nation's frequencies were completely reorganized in late 1928, the station again was reassigned to 1480 kHz, where it would split time with three other small Illinois stations: WHT, WORD and WIBO. On Sept. 16, 1929, station WCKY in Covington, Ky., began operations, and shared the frequency with WJAZ, WORD and WSOA (ex-WHT). By then, WIBO had moved to another frequency.

The FCC continued its efforts to unravel the tangled mess on the overcrowded broadcast band. During a 1930 frequency reshuffle, WJAZ, WCKY and WCHI (ex-WORD) all were moved to 1490 kHz and shared time there. WSOA had gone dark.

## The Big Freeze

Broadcasting stations had reached a peak number of 733 when the FCC took control in February 1927. With the exception of a few remote areas of poor reception, the agency immediately began limiting new station licenses on the 90 available frequencies. Even so, applications for new stations were still coming in at a rate of one per day by 1931. But 1931 saw only 11 new stations licensed, and many suddenly



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**Villa Acuña, Coah., Mexico.**

**DOCTOR, MRS. J. R. BRINKLEY AND JOHNNY BOY**  
**Milford, Kansas.**

When the FCC shut down Doc Brinkley's 1.5-kW station in Kansas, he opened up 76-kW station XER just across the border from Del Rio, Texas.





The Zenith mobile radio station, using the call letters WSAX, broadcasting across the street from Browning Bros. Co., Ogden, Utah. (Courtesy Alan Douglas)

gone from the airwaves. By the end of 1931, the total of stations operating had sharply dropped to 608.

Why had so many stations fallen silent in 1931? A few simply folded because of the Great Depression, while six consolidated with other stations. Most went dark because the FCC kicked them off the air. This was a result of the agency embarking on a major cleanup campaign using the clout from the new authority granted by Congress in the aftermath of the WJAZ matter.

## Fickle Finger of Fate

What a cruel irony that one of the first stations the FCC bounced was WJAZ itself! The FCC declared WJAZ to be superfluous. WJAZ and its co-channel WCHI were ordered off the air because their total operating hours on 1490 kHz were being turned over to Kentucky's WCKY.

How could that happen? Typically, licenses of minor share-time stations in big cities were being revoked to provide additional operating hours for their co-channel stations in small towns. In this manner, lesser stations in large cities, where broadcasters had become overabundant, were weeded out in order to allow local radio to become established in outlying areas.

Some left for other reasons. WIBR in Steubenville, Ohio, and WMBA in Newport, R.I., were bumped for violating reg-

ulations and failure to serve the public interest. WMAY was a St. Louis, Mo., church station the FCC claimed was illegally using another station's transmitter and, therefore, had only phantom call letters.

Others were yanked for failure to meet or maintain certain technical standards.

All did not go quietly. At least eight were able to obtain court orders to remain on the air during their appeals. Los Angeles' KGEF, formerly owned by the Rev. Robert P. Shuler, the militant pastor, was appealing to the U.S. Supreme Court as a First Amendment issue after failing to obtain

relief in lower courts.

Dr. John Brinkley had become rich and famous hawking his goat-gland sex rejuvenation operation and other quack medical cures over his station, KFKB in Milford, Kan. In 1931, the FCC took away his 5-kW radio license because of those cures.

Brinkley kept his Kansas clinic open after closing KFKB. But he started 76-kW station XER, just across the Texas-Mexico border. XER put a much better signal across North America than KFKB could, and he sold more snake oil than before.

Ultimately, the laws created in the aftermath of the WJAZ test case proved that WJAZ had managed to shoot itself in the foot. No other station managed to cram so much into a brief eight-year existence.

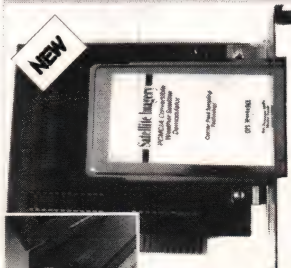
What of the portable broadcasting station? After its scouting job for WJAZ was completed, it used the call letters WSAX on 1120 kHz. During 1924 and 1925, WSAX toured the nation, accompanied by R.H.G. Mathews. Undoubtedly, it was the only broadcaster ever in California with a W prefix. Portable broadcasters were not permitted after Aug. 1, 1928.

McDonald and Mathews' Zenith Radio Corp. went on to become a leader in many areas of broadcasting and electronics manufacturing.

Some information in this month's feature updates material in the February 1995 issue regarding WGN. The information and photos of Zenith's portable station were generously furnished by our friend, Alan S. Douglas. Alan is the author of the excellent series *Radio Manufacturers of the 1920s*, available from Sonoran Publishing, 116 N. Roosevelt, Suite 121, Chandler, AZ 85226; phone (602) 961-5176.

We are always on the lookout for input from readers in the way of old-time radio and wireless photos, picture postcards, QSLs (originals or good copies), station listings, news clippings, memories, anecdotes, questions, etc. Everything is appreciated and eventually gets used somewhere. See you on the road to Radioville.

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BY R.L. SLATTERY

## There Be Pirates

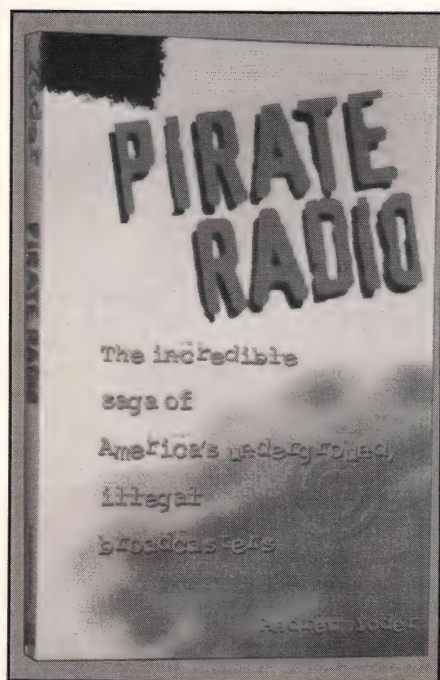
We always have been intrigued by those intrepid souls who are sufficiently 1. brave; 2. talented; 3. passionate; 4. motivated; and/or 5. naive (any or all of the foregoing) to operate unlicensed broadcasting stations. There is no shortage of pirate stations, either. They're on AM, FM and shortwave.

While some have a political ax to grind, others are dedicated to alternative music, satire or the communications hobby itself. No doubt that some pirate stations are absolute disasters, with poor quality signals and nothing much to say that people want to hear. Yet, some have been tantalizingly professional, with high-caliber programs and solid signals. Pirate radio always has been just this kind of mixed bag that has kept it interesting.

Though it is illegal to broadcast without a license, it isn't illegal to listen to these stations. They attract a sizable audience of regulars, plus many others who occasionally tune in out of curiosity.

Now comes Andy Yoder's new 326-page illustrated book, *Pirate Radio*, subtitled *The Incredible Saga of America's Underground Illegal Broadcasters*. The book is accompanied by an audio CD containing air checks of some of the most well-known pirates of all time. Andy is a long-time commentator upon the pirate radio scene, and has had material published here in *POP'COMM*.

In this interesting book, we go back into



the earliest roots of pirate broadcasting and learn about the infamous early stations, including WUMS in Ohio, which operated for decades despite massive FCC efforts to force it off. Also, the first offshore pirate broadcasting ship: More than 60 years ago, it created a national incident when it set up shop near Los Angeles.

He then traces pirates through the decades, ending up in the 1990s. There are in-depth interviews with actual pirates and stories about recent and current stations. The book is filled with pirate station photos and QSL cards. You'll learn about the motivation of those who become pirates. Find out about court decisions that could legalize some forms of pirate radio.

Included in this fine book is an extensive list of pirate station addresses and mail drops, plus a comprehensive bibliography of published materials about pirate radio.

*Pirate Radio*, along with its audio CD, is \$29.95. It's available from many communications books dealers. Or, it may be ordered (with \$4 shipping) from HighText Publications, P.O. Box 1489, Solana Beach, CA 92075. Phone orders: (800) 247-6553.

## We Got The Call

We received a review copy of Volume 1 of the 1996 Edition of *Police Call Beyond Police Call*. Volume 1 includes the seven Northeastern states, being one of a nine-volume set that covers the 48 continental states, plus the District of Columbia and Puerto Rico.

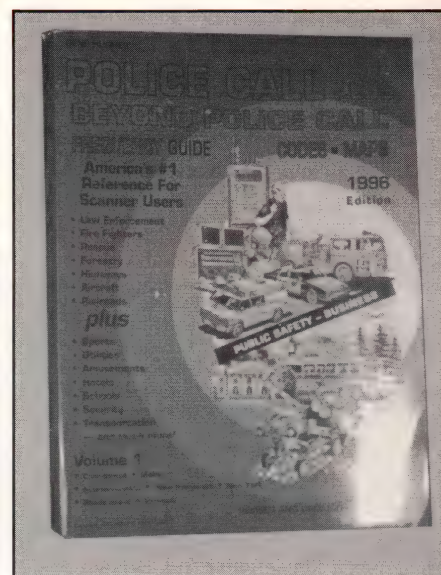
There was no explanatory material accompanying the review copy, however, *Beyond Police Call* is included as a section consisting of about 200 pages in the 368-page edition we received.

*Police Call* is an annually updated scanner frequency guide, mostly presenting FCC information about public safety services. It has been published for many years by someone who prefers to be known by his pen name, Gene Hughes.

It has the basics, such as data on public safety frequencies, callsigns, type of service, number of repeaters and mobile units licensed, and (for some agencies) channel numbers or districts. Listings are sorted by location, and also by frequency.

As for extras, there are some railroad, federal, forestry and other assorted listings included, plus a service allocation list. There are police codes from a number of larger agencies, and a well-done introductory section explaining scanning essentials.

*Police Call's* listings are at their best when sticking to straight FCC data. Some of the other information tends to be a bit



quirky. Like the listing for 40.70 MHz, a supposed oil-spill cleanup channel. Then there's 162.6625 MHz, claimed to be in the Special Emergency Service. There seems no validity to these, as well as a number of similar listings.

One example: frequencies shown for the Montauk Air Force Station. Because of many recent and planned military closings, admittedly it must be difficult keeping tabs on the current activity status of those facilities. However, the Montauk AFS was abandoned in 1971, and that was 25 years ago.

The *Beyond Police Call* section shows FCC licensee, location and frequency listings for a great many hotels, utilities, security companies, taxis, buses, teams, farm cooperatives, malls, newspapers, colleges, towing companies, rescue squads and other miscellaneous services. This is a particularly desirable section. Future editions should consider including traffic helicopters and fast-food drive-up windows.

We noted the frequency for *Victoria Secrets Catalog* was listed under the heading "Cultural Attractions." How can you not like a frequency directory that offers subtle social commentaries?

The typeface used in the *Beyond...* section is rather small and thinly constructed. It may be difficult for some people to peruse without the aid of magnification.

*Police Call* always has been a big seller. You get your money's worth because each issue contains a gazillion listings. There is so much in *Police Call Plus Beyond Police Call*, you can't go wrong having a copy at hand. We recommend it. The suggested price is \$12.99.

For more information, contact Hollins Radio Data, P.O. Box 35002, Los Ange-



les, CA 90035. A telephone number was not available.

## The Scanner Spectrum

All signal sources intentionally radiating RF above 30 MHz do so within a highly structured system of precisely delineated and defined frequency bands.

These bands include those designated for use by public safety, business and industrial, cellular and PCS, federal and military, marine and aviation, land transportation, experimental, FM and TV broadcast, broadcast links, DAB and MDS, interactive video and data, paging, radar, telemetry and wireless data, unlicensed RF services, scientific, amateur, satellites, radio astronomy, space exploration, new communications technologies and many more services.

Bennett Z. Kobb's *Spectrum Guide: Radio Frequency Allocations in the United States, 30 MHz-300 GHz, Second Edition*, is a highly detailed 311-page reference directory. It starts at 30 MHz, then continues band by band through the entire communications spectrum, ending at its upper edge, 300,000 MHz (300 GHz). The book lists, identifies and explains the commercial, federal, and/or scientific operations of each one of the more than 300 designated VHF, UHF, SHF and EHF bands. This is not a scanner directory listing of stations.

Kobb's information has been painstakingly compiled from and based upon an enormous amount of digging through FCC files and records, including some quite arcane. He sifted through experimental authorizations, rooting out information on several fascinating services that certainly still would be totally unpublicized, had their users been given a choice.

There is information showing how individual bands evolved, explaining what's happening there now, and if any changes are expected in the near future. Kobb's information for each band is supplemented with official data from the U.S. Table of Frequency Allocations. In the rear of the book, there is a complete subject index, as well as a band index.

In every way, *Spectrum Guide* is a valuable professional reference suited to every person interested in communications, including hobbyists, engineers, comms techs,

system designers, educators and scientists. You can pick any band, look it up, and find out what its story is. Not surprisingly, most bands have a story that is interesting, and worth knowing.

*Spectrum Guide, Second Edition* is available for \$34.95, plus \$5 shipping/handling (\$6 to Canada), from CRB Research Books Inc., P.O. Box 56, Com-mack, NY 11725. N.Y. state residents add \$3.30 tax. MC/VISA accepted. Phone orders: (800) 656-0056. Canada/AK/HI orders: (516) 543-9169. ■



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In tests conducted by Lockheed Corporation, one of the world's largest Aerospace Companies, at their Rye Canyon Laboratory and Antenna Test Range, the Wilson 1000 was found to have 58% more power gain than the K40 Electronics Company, K40 CB Antenna. This means that the Wilson 1000 gives you 58% more gain on both transmit and receive. Now you can instantly increase your operating range by using a Wilson 1000.

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New Design**

The Wilson 1000 higher gain performance is a result of new design developments that bring you the most powerful CB base loaded antenna available.

### Why Wilson 1000 Performs Better

Many CB antennas lose more than 50% of the power put into them. The power is wasted as heat loss in the plastic inside the coil form and not radiated as radio waves.

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\*Inductively base loaded antennas  
\*\*Call for details.

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Aug. 21, 1987

Wilson Antenna Company Inc.  
3 Sunset Way Unit A-10  
Green Valley Commerce Center  
Henderson, Nevada 89015

Subject: Comparative Gain Testing of Citizen's Band Antennas  
Ref: Rye Canyon Antenna Lab File #870529

We have completed relative gain measurements of your model 1000 antenna using the K-40 antenna as the reference. The test was conducted with the antennas mounted on a 16' ground plane with a separation of greater than 300' between the transmit and test antennas. The antennas were tuned by the standard VSWR method. The results of the test are tabulated below:

FREQUENCY (MHz)	RELATIVE GAIN (dB)	RELATIVE POWER GAIN (%)
26.965	1.30	35
27.015	1.30	35
27.065	1.45	40
27.115	1.60	45
27.165	1.50	41
27.215	1.60	45
27.265	1.75	50
27.315	1.95	57
27.365	2.00	58
27.405	2.00	58

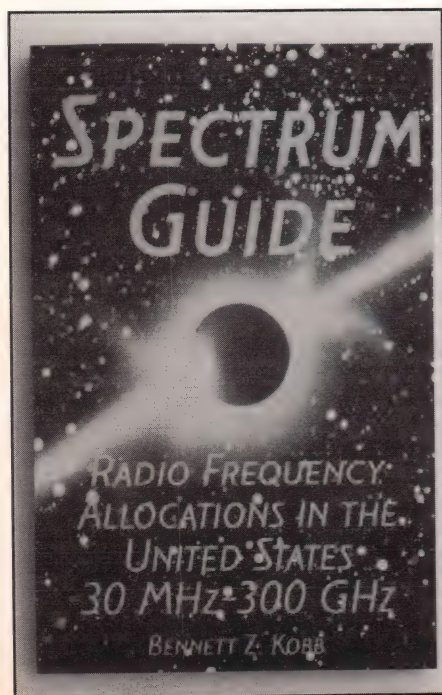
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# An Unusual Station

## *The Seven-and-a-Half-Inch Reel of Tape with Its Own Callsign*

BY PETER HUNN

Open broadcast history's treasure chest and jewels as bright as vintage KDKA shimmer on the pinnacle. A closer look, however, reveals that electronic communications' past also is buoyed by thousands of lesser-known stations and their stories. This tale, for example, begins in the hallway of a southern church and ends on a government printer. It is the story of one WBBL, Richmond, Va., an American broadcast facility so categorically unusual that officials barely knew how to catalog the station. While not typically given even a mention in college media texts, WBBL's significance touched people's lives over many decades.

Some folks at Grace Covenant Presbyterian Church began chatting about the possibilities of something new: radio. This "trendy" conversation was connected to a famous evangelist's scheduled visit to the Richmond, Va., church in January 1924. "If only we could broadcast the revered's message and reach shut-ins, prisoners and people outside of town!" they dreamed.

From the congregation, a doctor, lawyer and banker decided to see what it might take to establish a real radio station. The trio drove the physician's Ford to our nation's capital and met with two men who worked with radio licensing at the U.S. Department of Commerce. After a few hours of "swapping funny stories," the government officials slapped the church members on the back and typed up an authorization for 15 watts on 1140 kHz (now occupied by WRVA, Richmond). "What would you like for a callsign, fellas?" asked the G-men. "How 'bout Where Best Broadcasting Leads?" the out-of-towners mused. So, the Commerce Department's shiny black Royal banded: W B B L, just moments before the doc's old Model T Ford hightailed it back to church.

Meanwhile, a technically minded parishioner/scoutmaster along with two young assistants from his troop strung a wire antenna and put together a few pieces of battery-powered equipment that got WBBL

airborne (in time for the evangelist's sermon) the very next day. Shelves to hold the simple transmitter were fashioned from discarded stairs.

Steps in WBBL's history saw its power upped to 50 watts by the fall of 1924, doubled two years later (that 100-watter generated reception reports from all over Virginia and beyond), and kept rising until 5 kW was achieved through an uncommon agreement mentioned later. Also along the way, federal rules (circa 1931) necessitated the purchase of a store-bought, Western Electric, crystal-controlled transmitter and heavy-duty 40-foot wire/cable antenna strung between the poles on the church roof. Dial position at WBBL changed with the times, too—1140 to 1240 kHz, then 1450, and finally 1480 kHz.

As radio's popularity grew, AM frequencies in major communities, the likes of Richmond, became scarce. Grace Covenant Presbyterian protected WBBL's license by programming everything from musical request shows to call-in talk. Early logs even note: community fund appeals, election returns and football game coverage. Of course, the licensee's chief purpose was the transmission of Sunday morning and evening services. (Station KPPC, Pasadena, Calif., of the Pasadena Presbyterian Church observed a similar Sunday a.m./p.m. schedule. In addition, this 100-watter fired up at 1230 kHz for midweek services Wednesday evenings). No doubt these broadcasts were especially appreciated during the dark days of World War II when many local families had sons in harm's way. It also was during this era that the U.S. government barred the establishment of new radio stations (for the duration of the war). Anyone smart enough to put a new one on the air would have to go through some technical loophole.

Tom Tinsley of WITH, Baltimore, discovered a way to add a new station at Richmond with the stroke of a pen. In 1944, he signed a lease with Grace Covenant Presbyterian authorizing him to use

WBBL's equipment. Tinsley then presented his plan to the Federal Communications Commission, and heard: "Well, I'll be..." from an FCC staffer who simply granted this new "paper station," a callsign (WLEE) and a "time-share license" with WBBL. The agreement "reserved in perpetuity" 11 a.m. to 12:15 p.m. and 8 to 9 p.m. Sundays for WBBL with WLEE taking the rest.

When World War II ended, so did the FCC ban on new station construction, allowing WLEE to build state-of-the-art studio and transmitter facilities. Each Sunday, WBBL's programming was sent, via phone lines, to WLEE for broadcast. This "time share," whereby WLEE would do a "remote" broadcast from the church and switch call letters to WBBL, worked well for many decades. Occasionally, a Sunday church program was prerecorded. Radio history enthusiasts might note that such a recording probably was the only reel of tape with its own set of official FCC call letters (since, that reel was the only distinction between WBBL, 1480, and WLEE, 1480).

Sometime in the early 1990s, WLEE lost its antenna site and left the air. Its callsign was picked up by another Richmond area station, as was Grace Covenant Presbyterian's Sunday service. Attempts to save WBBL by relocating some sort of a tower near the church didn't pass muster with zoning or federal agencies. As a result, WBBL's unique "time-share" authorization (something the FCC now seldom handles) quickly faded into broadcast history.

There is a passage in the Bible urging unselfish service to those who might not otherwise be reached. In so doing, the Good Book promises, one sends treasure to heaven. That's a respectably long way on 15 watts. ■

*Peter Hunn, author of How To Start Your Own FM Station, sold his last facility (WZZZ, Fulton, N.Y.) recently, and is a professor of communications studies at the State University of New York at Oswego.*



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# Scanning VHF/UHF

BY J.T. WARD

MONITORING THE 30 TO 900 MHz "ACTION" BANDS

## Digging to the Bottom Of the Mailbag

When I took over this column last November there was a backlog of mail waiting to be answered. I made a little headway into the stack of letters with last month's column and I'll whittle away at it a little more this month and next, while trying not to fall behind in answering new correspondence.

Not every letter will get printed. If more than one letter asks the same or a similar question, only one will be answered directly. Hopefully, other readers will glean the information they seek from that answer.

A note on photographs: For the best reproduction, photographs should be at least 3 inches by 5 inches, sharply focused and well exposed. Color photos are fine, but black-and-white photos often reproduce best. Avoid Polaroid photos if at all possible. Older Polaroids especially often produce poorly lit, out-of-focus photographs.

Remember to include your city and state in all letters, and a telephone number in case I have a question, especially about technical subjects. Your telephone number will not be printed. If you're comfortable doing so, also include your age and occupation (or grade, if a student).

By the way, now that Old Man Winter has loosened his icy grip on most of the nation, it's time to do a little maintenance on those outdoor antennas. Make sure you have enough help and the right tools to do the job safely, and stay away from power lines. I value all of my readers, and would hate to lose any of you.

### The BC-9000XLT

In the January issue, I ran a photograph of my own monitoring post. Well, there have been some changes since, and while I don't normally endorse specific makes and models of radios in this column, the Uniden Bearcat 9000XLT scanner I acquired recently has impressed me so much I've just got to spread the word.

I've been using Bearcat scanners since the early 1970s, and for what it's worth, I think this is one of the best ever made.

I won't go into all the specifications here—those are easy enough to get from Uniden or from your dealer. But features including 25 MHz to 1300 MHz coverage



Robert Krasnoff of Boca Raton, Fla., has equipped his listening post with (right to left) a Regency HX1500, a Uniden BC2500XLT, a Realistic Pro-37 with a Motorola speaker, a Uniden 210XLT base scanner and a RadioShack frequency counter.

(less UHF-TV audio and cellular), a channel-selectable attenuator, smart auto-store that only stores an active frequency once, 50-frequency lockout in search mode, 100-channel-per-second scan speed, user-definable receive modes and frequency search steps, alpha-numeric readout and excellent audio (including a selectable high-frequency audio filter) make this one of the most versatile scanners on the market in the under-\$500 price range.

Is it perfect? Well, no. I'd like to see the external speaker and line output jacks moved to the rear panel and a headphone jack added to the front. Alpha character entry is tedious, and you can't tell that a channel is locked out when in alpha mode. Uniden uses small LEDs inset in the delay and attenuator buttons to indicate when those functions have been selected. The same system should be used for the lock-out function as well.

Like many Uniden scanners, the BC-9000XLT is sensitive to images (particu-

larly cellular images in the upper ends of the military aircraft band) and strong-signal overload, although the attenuator goes a long way toward eliminating the problem.

Is there a perfect scanner? Not yet, and there may never be. But I'd be interested in hearing about the features you'd like to see included on the "Best-Ever Scanner." Drop me a note with your ideas and I'll compile them in a future column.

### Eats and Freqs

Dale Hamm in Austin, Texas, says he's an avid listener of restaurant drive-through order window radio systems, and he sent along the following frequencies for his area: Dairy Queen, 30.84 output with 154.570 input; Whataburger, 30.84 output with 154.570 input; Grandy's, 33.40 output; Taco Bell, 33.16 output; McDonald's, 35.02 output with 154.600 input; Wendy's, 457.600 output; and Kentucky Fried Chicken, 457.550.



Dale said he hasn't had any luck finding the frequencies in use at Jack In The Box restaurants. Perhaps another reader can help him out.

He also included these miscellaneous frequencies: Austin Independent School District—security, 460.875; buses, 463.900; all Austin schools simplex, 463.200 and 463.225. Also, Union Pacific Railroad phone patch, 160.605; Omaha dispatcher for UP railroad, 160.740, 161.550 and 161.520.

## Illinois Changes

Kevin Reynolds of Glenwood, Ill., hopes another Chicago area POP'COMM reader can help him understand changes being made by the Illinois State Police.

"I have noticed that in the Chicago area (the old District 4) that the Illinois State Police have dropped their number identifiers on the license plates (formerly 4-116 for 4th district car, No. 116) to new designations reflecting "C-116."

"Also, I have noted that these cars have had their low-band 102-inch whips removed from the left side of the vehicle. The only remaining antennas are a 36-inch and 12-inch on the trunk along with assorted 12-inchers on the roof (along with an 800 MHz whip). Do you or any of your readers have any insight on the new frequencies being used? The old frequency was 42.34 MHz."

Kevin, I'll toss this one up for grabs and hope some savvy Windy City reader can help you out.

## Data Decoding?

A reader who identified himself only by the e-mail address Litbear1@aol.com wants to know, "Does anybody make software or hardware to decode Motorola mobile data terminals like the police are using to access motor vehicle information? What format are they using?"

"If you can tell me the same about ACARS and pager modes such as POSAG and GOLAY, I would greatly appreciate it."

There are a number of companies producing software and hardware that will allow the scanner listener to decode ACARS, which is used to pass coded information to airliners in flight, as well as the two pager transmission modes. Just check the ads in this magazine and you should find plenty of examples.

Unfortunately, when it comes to decoding Motorola (and other) mobile data terminals, the news isn't so good. These systems use proprietary communications protocols at very high baud rates, and to the best of my knowledge no hobbyist has been able to develop either software or hardware to monitor them.

And finally this month, volunteer fire-

fighter Mike Fitzpatrick Jr., from Great Barrington, Mass., wrote to say "first of all, congratulations on your first two columns! They were great! Mr. Gysi may have a run for his money!"

Mike, thanks for the kind words, but I've got a long way to go before my expertise approaches Chuck's. If this column is a success, it's because of readers like you who contribute.

Mike offered this information for the Berkshire County area of Massachusetts:

"The Berkshires in western Massachusetts are a very hilly and poor reception area. The county's population is around 50,000. There are two cities and 29 towns. Most fire and police departments are dispatched from the county communications center in Pittsfield, Mass.

"Countywide fire dispatching is done on 154.310 from one of four towers in the county. The main tower has 200 watts effective radiated power and can be picked up as far as 100 miles away. The new county fire-ground tactical frequency is 154.160.

"There are seven separate dispatch centers in the county, not including county dispatch. Larger towns dispatch their own departments and surrounding smaller towns, usually on 154.310 also. These independent dispatch centers tend to use lower power.

"The city of Pittsfield uses 154.340, but can be picked up only close to the city. North Adams uses 153.950; Dalton uses 153.815; while Williamstown uses 154.130 and is very weak."

Mike says the county sheriff and most small-town police departments in the area operate on 153.965. Pittsfield uses 155.070 and North Adams uses 156.210.

Other police frequencies include Great Barrington on 155.775 (home of the Memorial Day '95 tornado), Dalton police on 154.875, Lee police on 154.775 and Williamstown on 155.250. The county has an inter-city dispatch frequency of 154.740.

Massachusetts State Police use 42.46, but Mike says they're slowly switching to a trunked system.

"Seeing that the Berkshires are such a big vacation area, these might be interesting," he wrote.

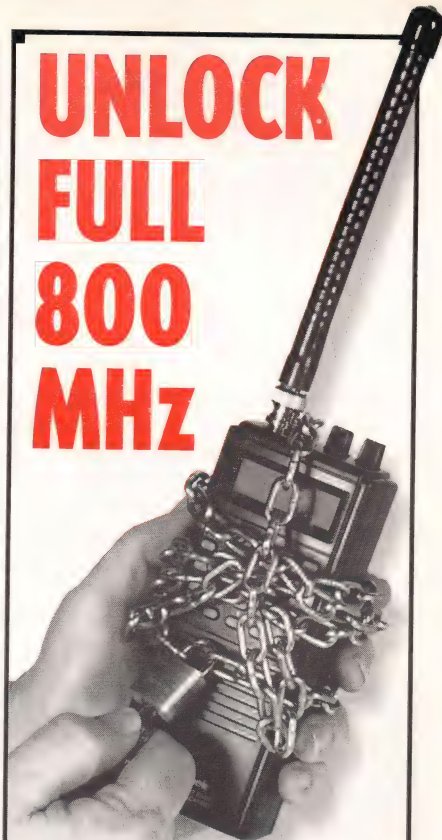
Mike, I think you may be right. Thanks for sharing them.

## Write In

That's all the goodies this month. Keep those cards, letters and pictures coming.

Send your letters to J.T. Ward, Scanning VHF/UHF, Popular Communications, 76 N. Broadway, Hicksville, NY 11801-2909. GENie on-line subscribers may contact me directly by addressing e-mail to JTWard. Via the Internet, send E-mail to JTWard@genie.com ■

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# Satellite View

BY DONALD E. DICKERSON, N9CUE

INSIDE THE WORLD OF SATELLITE COMMUNICATIONS

## Death Star Comes to Canada

**D**eath Star could be the name of the newest member of the Star Wars arsenal, but fortunately it is not. According to Bertrand Marotte's article in *Southam News*, Death Star is Canada's first entrant in the Direct To Home (DTH) satellite service. Trevor Fletcher of Edmonton, Alberta, passed along the article that reports Death Star is owned by ExpressVu

Inc. of Toronto, Ontario, and began service in December with 43 channels. Before the end of the year, it plans to implement 100 or more channels for a total of 145 video and 30 audio channels.

Death Star services will be offered in analog and digital formats, allowing large-dish owners in remote regions of Canada to take advantage of the service. Its analog

service will transmit laser-disc quality video and audio. For this reason alone, the cable TV industry named the satellite Death Star for fear of what it would do to their share of the market.

Customers will pay the usual \$30 a month service fee, plus an investment of around \$1,000 for equipment and an additional \$300 installation fee. Thanks for the

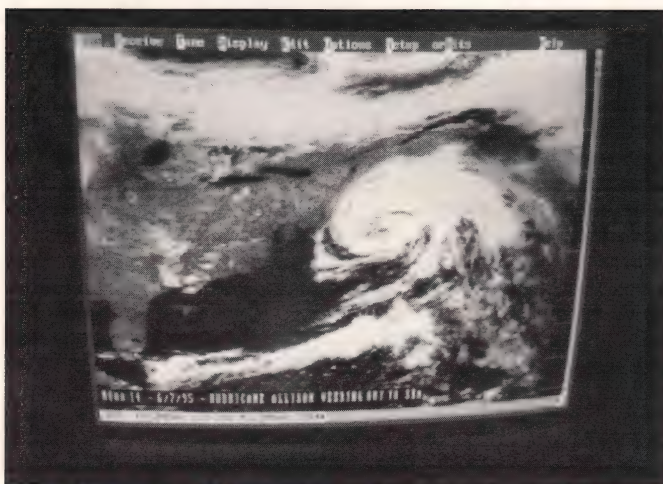


Fig. 1. An example of Gus Stellwag's WEFAX terminal.

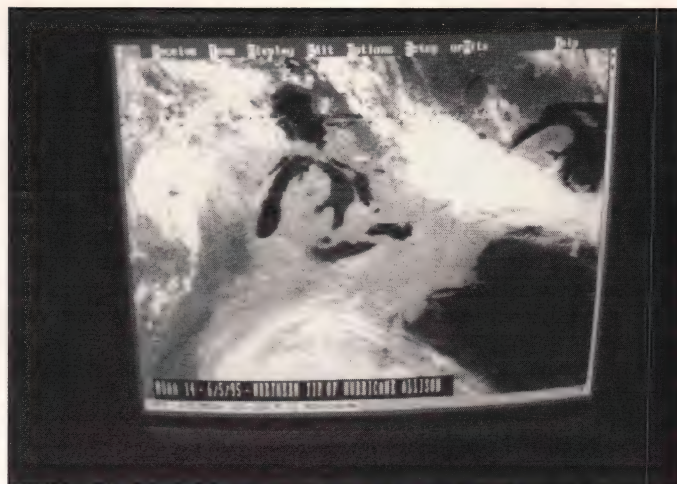


Fig. 2. NOAA 14's view of the Great Lakes.

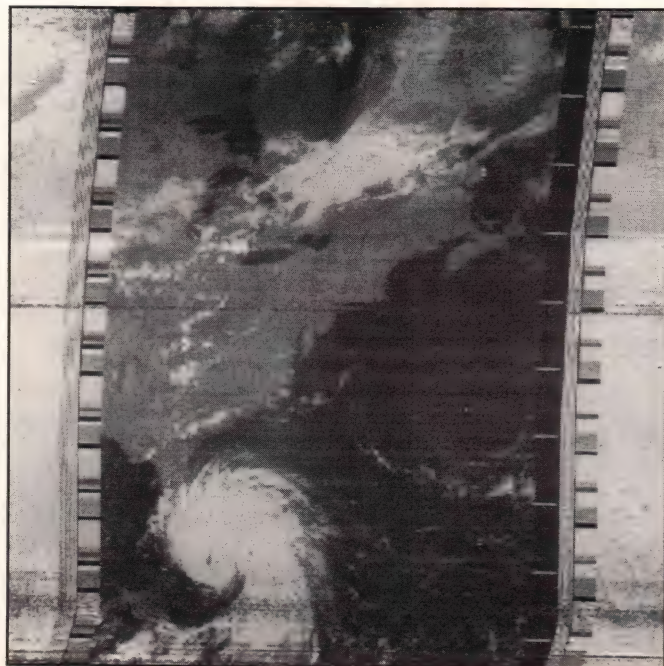


Fig. 3. This WEFAX of Hurricane Erin was caught by NOAA 14 on Aug. 1, 1995, with a time pass beginning at 1408 EDT. The image was received at Stamford, Conn., using a rooftop Lindenblad-type antenna, Hamtronics LNG-137 preamp and R138 receiver, printed on a Canon BJ-200ex.

Fig. 4. Here is the same image, however, the perspective is altered by vertical compression.

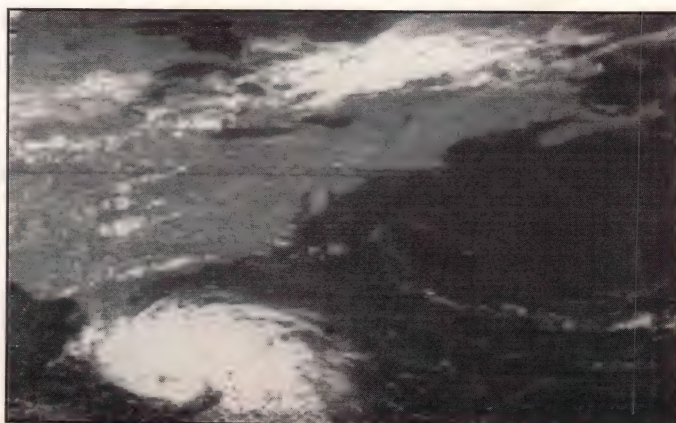






Fig. 5. Pat Griffith found DirecTV's uplink facility in Douglas County, Colo.



Fig. 6. Visitors do not receive a warm welcome.

info, Trevor. Always good to hear from you.

Next we hear from Robert Setnor, KE6DOC, of California, who is interested in weather satellites. Robert is particularly interested in Juan Fierro's claim in a past Satellite View column to have built an inexpensive WEFAX demodulator from Radio Shack parts. I have not seen plans for the unit, Robert, but if Juan or anyone else sends them along I will be sure to get you a copy. Thanks for the nice comments, Robert. Hope to hear from you again.

August Stellwag of New York sent in two great photos of his WEFAX terminal (see fig. 1 and 2) that displays the United States as seen by NOAA 14. August has just installed a new turnstile antenna that allows him to catch three passes a day even though his house is surrounded by trees. Great photos, Gus. Be sure to keep us updated on your station.

A very interesting question comes in from Robert Nichini of New York. He wants to know whether he can use an 18-inch dish in Puerto Rico to receive RCA's DSS satellites. His main interest was the footprint and whether it includes the island. I can't give you a definite answer on the footprint, although I will try to get that information to you. Not being intimately familiar with the equipment, I don't know whether you would have any problem using your receiver in Puerto Rico. Most C-band footprints will hit the island in question with no more than 20dB to 25dB—just slightly less than half the figure you get in the United States. Keep in mind, DSS signals are more challenging to work with. If anyone can help Robert, let me know and I will relay the information.

Next up is Fred Gabriel of Connecticut. On his last sailing trip he set his Radio Shack timer to turn on his WEFAX station in hopes of catching a NOAA 14 view of Hurricane Erin (see fig. 3 and 4). If you take a close look at fig. 3, you can see him just off the coast of Long Island. Fred's

Canon printer produced an excellent quality printout.

We received a letter from Patrick Griffith, NONNK of Colorado. Pat sent along another set of photos from DirecTV Inc.'s uplink site in Douglas County, Colo. The closest he could get to the site was two miles away on a hill to the west of the very large dish antennas seen in fig. 5. The large antennas are hard to appreciate from this angle. The sign in fig. 6 is no doubt meant to keep the timid out of the area. I think its time to turn this one over to Mulder and Scully! Good to hear from you again, Pat.

Our last item comes from Jerry Cody of Washington. According to a recent article in the *Oregonian*, the military is retasking some of its spy satellites to study climatic changes around the world rather than seeking missile silos and enemy troop movements. But there is no need to worry about the NRO or CIA joining forces with Greenpeace any time soon. Collected information on the rain forest, crop and global warming will remain classified for the foreseeable future. Some 500 sites are listed as targets for the satellites. Hard to believe? You bet! Maybe this is the story we should refer to Mulder and Scully. See you next month. ■

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BY W.W. SMITH

POP'COMM REVIEWS PRODUCTS OF INTEREST

## Viking International's 10-Hour Recorder

Anyone involved in the radio listening hobby for any length of time probably can give a dozen reasons for owning a tape recorder. I must confess I never gave much thought to any tape machine more complicated than my old bargain-basement cassette deck that I've used over the years. I've seen Viking International's ads in *POP'COMM* and other radio magazines and I've never given them more than a glance. Long-session tape recording always seemed more of a novelty to me than a necessity.

Well I'm here to tell you that an old dog can learn a new trick from time to time. You probably could talk me out of a receiver or two before you would get me to give up my 10-hour recorder now that I've spent some serious time filling tapes with stuff I would have missed otherwise. I might even go so far as to say that an extended-duration tape recorder is a necessity for anyone trying to manage a normal life and the radio listening hobby.

Face it: At best, most people can spend an hour or two a few nights a week for some serious listening. Even if you were able to devote every waking moment to radio listening, you still probably would miss much of what might be worth hearing. Murphy's law indicates that while you're tuning around on your shortwave receiver tracking some rare country, your scanner will be alive with a once-in-a-lifetime event. An extended-duration recorder evens up the score with Old Man Murphy!

As a matter of fact, it was a progressive personal lifestyle change that brought the Viking International Recorder into my hobby practice. I found that the real world was presenting me with less opportunities to sit at the receivers and more time commuting in my car. It became a simple solution to set up the 10-hour tape recorder to do some real-time listening that I then could enjoy going to and from work. Let's take a look at the hardware and then we can discuss a few possible ways a 10-hour recorder might work for you.

### It's Different

The first thing you will notice when you take the Viking International 10-Hour Recorder out of its box is that this is not your common garden variety cassette tape machine. This is a truly heavy-duty profes-



### Viking International 10-Hour Recorder

**Price:** \$149

**Built-in voice-activation option:** \$25

**Contact:** Viking International, 150 Executive Park Blvd. #4600, San Francisco, CA 94134

sional unit that is built for serious use. Physically, the unit is slightly larger in size than most common cassette recorders; in inches it measures 8 by 11-3/4 by 2-3/4. The case is equipped with a very sturdy metal pullout carrying handle. This minimally larger case makes room for many features not found on common cassette recorders. The most notable feature is the Listening Center, which includes no less than four 1/4-inch phone-jack positions for group listening of tapes. Next is a 3.5mm auxiliary input jack ("aux in") that allows for recording directly from outside sources such as receivers or other devices capable of audio output.

Additionally, there are microphone/remote jacks ("mic remote")—3.5mm and 2.5mm respectively—that provide a con-

nection for common dual-plug microphones equipped with remote start-stop switches. Like more common recorders, the 3.5mm microphone side of this dual jack setup can be used for mikes not equipped with switches. The recorder has an LED record level that allows the user to monitor effective volume while recording. Its operation is quite simple. If the LED is out, the volume is too low. If the LED is on continuously, the volume is too high. Simple volume or gain control adjustment to allow for a flickering light indicates that things are as they should be.

The unit comes with an excellent and accurate mechanical digital tape counter with a reset button. Unlike many inexpensive cassette machines, the Viking International recorder conforms to 2X ANSI standards. Repeated rewinding and fast-forwarding always brought the tape right back to where it started. Next comes the ALC switch for switching between automatic level control and manual level control during recording. The unit also is equipped with a built-in condenser microphone that has high sensitivity for recording meetings or conventions.

### Control Center

Tape control and management controls essentially are the same as you might find on any standard cassette machine. You find keys marked "record," "play," "stop/eject" and "pause." Where traditional recorders have keys marked "fast forward" and "rewind," the Viking International unit has keys marked "review" and "cue." These function the same as they would on common recorders. Of interest to those who are visually handicapped, this recorder is equipped with approved Library of Congress symbols for ease of use.

The unit's built-in speaker provides fine sound reproduction with excellent amplification all within the limits of reasonable use. Power for operation can be had from either the built-in standard three-pronged line cord or from six standard "C" cells. Alkaline cells are recommended. The battery case is located under the unit, as is the AC line cord storage area.

Optional automatic voice activation (VOX) also is available and is adjusted by a single control that is found on the left side of vox-equipped units. This single control



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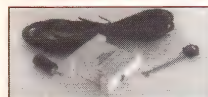
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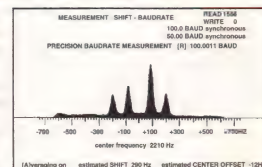
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## Is Tape Recording Sporting?

Some radio hobbyists maintain that you have to be "at the dials" for listening and loggings to be "real." Fact is, we live in a world that demands a great deal more out of our time than listening to the radio. Making good use of a tape recorder to assist in listening simply makes good sense.

Determining whether taping signals is sporting or not is purely subjective. This is how I see it: The true measure of skill and ability in radio monitoring involves knowing when and where to listen along with bringing the best receiving hardware you can muster to the situation. If you have done all this—and it happens to be a tape recorder that catches the signal and not your own ears—so what?

Your tape proves your strategy was good and your equipment was up to the task. No doubt this only starts the debate and doesn't come close to ending it. Still, taping remains a great way to cram a lot of listening into the limited time most people have to enjoy the radio hobby.

—W.W. Smith

turns the vox feature on and off as well as adjusts it for sensitivity.

## Optionally Speaking

The recorder comes with a relatively standard one-year limited warranty against defects in workmanship and materials. The manual is well written and fully informative as to the use of the recorder. Viking International also provided me with several applications handouts that demonstrate the versatility of this unit. Needless to say, between the professional quality and the extended time recording capability, this unit is ideal for any serious radio hobbyist. Viking International also can supply recorders with 12-, 14- and 16-hour capability in addition to the basic 10-hour unit.

In actual use, I initially expected to find a significant drop in fidelity because of the much slower tape speed. I was pleasantly surprised to notice that within voice and radio communications situations, any reduction in signal quality is unremarkable.

You won't keep many audiophiles happy, but you won't miss a word when reviewing the tape. My test applications included connecting several AM broadcast, shortwave and scanning receivers up to the unit. Receivers that had dedicated tape recorder output jacks required only a standard patch cord with appropriate plugs on each end; two of the receivers had no separate output. In these cases, I utilized the headphone

jack and an attenuating patch cord with some judicious gain adjustment. This worked well with no significant distortion or hum as long as I kept a close eye on the controls.

The unit I received from Viking International was not equipped with VOX capability, but use with a scanner equipped with a tape recorder output should be fairly straightforward. With the VOX unit in operation, the recorder would run only whenever the squelch broke with a signal. This could make for some very efficient listening, especially if your intent is to monitor a specific frequency over time.

Some scanners are equipped with "recorder start" features. In these cases, the receiver itself activates the recorder's remote microphone switching circuit. For scanners with this capability, the standard non-VOX recorder might be a better choice. Viking International also markets a device called the SR 9 ScanRecord, which allows for automatic recording whenever the squelch breaks using a regular long-play recorder. It would be wise to review your various receiver manuals before deciding which recorder (VOX or standard) will best fit your needs.

## Tape Tips

Your choice of cassette tapes will determine how long your recorder will operate. Viking International recommends regular bias tapes for use in its recorders. A standard C120 delivers the full 10 hours at five hours per side. A C90 tape will get you 7.5 hours at 3.75 hours per side. C60 tapes give five hours at 2.5 hours per side.

You need to remember that most common tapes have a leader on them. In most cases, a fully rewound tape will need to run for about 30 seconds before actual recording starts. If this bothers you, you can purchase leaderless tapes from some audio stores, but their cost probably is not worth the trouble. A tip the folks at Viking International shared is that you simply let the recorder run to 001 on the counter before recording and you'll clear the leader.

## Using the Recorder

Now let's take a look at some of the fun I had putting the unit through its paces.

One of the neatest activities in the world of AM broadcast listening is catching DX tests. These are special transmissions by AM broadcasters that often represent the only opportunity to add some of these stations to the log book. The big problem for me is that these often occur at very late hours, well past the bedtime of anyone who has to get into work the next day. Rather than taking a chance at falling asleep on the job, my practice now is to connect my receiver and the Viking International tape recorder to a simple timer. So now at 2 a.m., when the DX test is running, I'm

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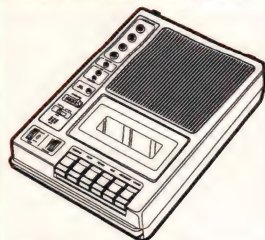
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stacking ZZZs while the test is being recorded. I then can review the tape at a more reasonable hour.

Tracking the time is easy. I know what time the recorder started recording. I simply follow the tape recorder's counter with a stop watch to figure out what time things actually happened during the test. The highly accurate counter assembly on the 10-hour tape recorder makes this practice relatively accurate.

Several times a year, pirate radio activity is increased. Certain holidays, notably New Year's, Halloween and the Fourth of July are full of free radio fun. Often on these dates, a single frequency is chosen and the pirates coordinate their broadcasting efforts. This can result in a full evening of interesting and entertaining listening. However, since these holidays also are special days for non-radio oriented folks, I often have commitments to family when the listening is hot. No problem. Again I just tune up the receiver, start the recorder and head out for the family activity. When I come back, I usually have a few new pirate programs to add to my collection. The same technique can be applied to regular weekend pirate listening. I find I usually get called to dinner just as things begin to get interesting. All I need to do is hit the record button and family bliss is maintained.

Similarly, some of the best shortwave log-

ging opportunities from the far Pacific regions hit my receivers when I'm busy getting ready to head out for work. Using a memory scanning shortwave receiver, I just enter the hot frequencies and get the tape recorder running. Basically any known frequency can be monitored while you deal with the world around you.

In the amateur radio world, I've used the recorder to monitor network operations on my local repeaters and on the HF bands. Often it is useful to have a record of what went on for later review. This last winter, local ARES/RACES net response to a major snow emergency made for a tape that our group uses for training purposes with new members.

The recorder also can be useful for propagation analysis. For example, you could set the recorder up with a receiver tuned to any of the 10-meter beacon frequencies. As the signal moves in and out of audibility, you can make a comparison with expected conditions established by any of the common propagation programs available for personal computers.

Also, several times a year, VHF operators try their hand at long-distance communications by taking advantage of the several known meteor showers. Common communications is high-speed CW or packet radio because the opening that the meteors create are extremely brief. Letting

the recorder run on the common weak signal frequencies will let you listen in on some of the most interesting activity that ham radio has to offer.

If you are a contester of any stripe, the 10-hour recorder running in the background will help you sort out those places in your log where things get confusing in the heat of battle.

A more terrestrial but still useful application would be bringing the 10-hour recorder with you to radio hobbyists conventions and get-togethers. This recorder is ideal for catching all the information that is shared in the lectures and forums at such shows. The built-in microphone on the Viking International unit is specifically designed for this purpose and you will be able to get a ton of stuff down on one tape.

## In Conclusion

Obviously, I am excited about the Viking International 10-Hour Recorder. It is a truly professional piece of gear.

The unit is built to give years of service, making it well worth the additional investment over less-expensive cassette units. You also will discover that "time shifting" some of your listening will make you a lot more popular around the household. Chances are that will more than make up for the price.

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### Big-Radio Portable Power Supply

**E**mergency responder teams that set up portable stations in disaster areas usually require a hefty 12-volt power system to work their high-frequency, 100-watt-output transceivers such as the Yaesu FT-900, Kenwood TS50, Icom IC-706, Alinco DX70 and SGC 2000 Power Talk.

Each of these worldwide high-frequency SSB transceivers is extremely compact in its overall size, or has remote-head capabilities that allows this equipment to work in an emergency vehicle or temporary shelter. All of these sets are capable of emergency transmit on FEMA, MARS, CAP and Coast Guard channels along with their regular 100-watt transmit capabilities on ham frequencies. Operating on frequencies out-of-band specifically requires proper licensing credentials from these different agencies.

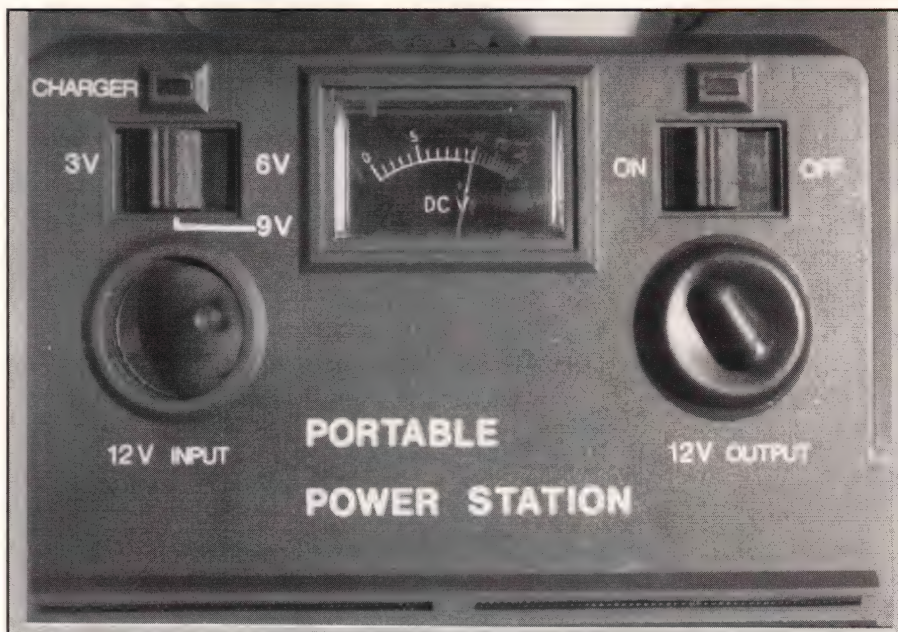
These worldwide high-frequency SSB transceivers run off of 12 volts DC, and requires a circuit of 20 amps. A temporary installation in an emergency four-wheel-drive vehicle would not allow these sets to work off of the cigarette lighter plug. This equipment also would not work off of a CB-type 3- or 4-amp power supply in an emergency temporary command post.

This radio equipment works nicely off of a 7-amp-hour rechargeable, maintenance-free, sealed lead-acid battery. One of the most popular batteries is the YUASA NP7-12, manufactured by YUASA-Exide in Reading, Pa.—made in the U.S.A. The 7-amp-hour YUASA battery weighs 7 pounds, but can withstand current surges of up to 40 amps—twice the amount of peak current that any 100-watt output HF SSB transceiver could draw.

At 20-amp modulation peaks, a freshly charged YUASA barely registers a significant voltage drop. This makes the battery ideal for running a high-frequency transceiver for brief periods of transmit time in an emergency.

The battery still requires some sort of charging, and a protective case to carry it in to prevent an accidental short-out of the exposed terminals. The Power Station from The Ham Contact in Long Beach, Calif., (800) 933-HAM4, may be a good solution for emergency communicators needing one nice, neat, compact package.

Since a new YUASA battery sells for about \$35, and a new Power Station sells for \$50, it's easy to see how a handy port-



*The portable Power Station has a hard-to-see meter with an illogical 0-20-volt scale.*

able setup like this with its own built-in, sealed lead-acid battery, rated at 7 amp hours, can be a good solution. Instead of having to run large power leads from inside an emergency vehicle through a fire wall or into the hood area to gain battery access at 12 volts, the Power Station allows you to plug the (included) cigarette lighter plug into the emergency vehicle cigarette lighter receptacle, replenishing the internal lead-acid battery as you communicate on your high-frequency or VHF/UHF transceiver. The Power Station has a small hard-to-see voltmeter that lets you check your internal battery status.

But to make this work well for you, the Power Station from The Ham Contact will need some modification. We found that the built-in charger cannot keep up with the normal discharge rate with either a dual-band mobile or high-frequency transceiver attached. The enclosed literature claims, "quick recharge...three hours approximately from 12-volt DC sources while driving..." and we found that the only time you could squeak a minimum of 2 amps recharge was when the vehicle supply voltage was over 15 volts! At 13.8 volts input,

the charger regulator circuit cannot keep up with the draw of your equipment. The instruction manual suggests recharging from the same direct-connect posts on the back of the Power Station that runs to your radio. Not a bad idea—this allows from 2 amps to 7 amps to flow from your vehicle cigarette lighter receptacle into the internal battery direct. I prefer to use the built-in 10-amp fuse as protection against a short-out, so I rewired the 12-volt input receptacle through the fuse, bypassing the internal "lightweight" voltage regulation circuit. I haven't blown the fuse yet, and I see from 4 to 8 amps of recharge when I'm really using the HF transceiver a lot. Best of all, I can run from a cigarette lighter receptacle without any major wiring harness to the temporary vehicle battery.

This same portable power station also offers 0.5-amp output at 3 volts, 6 volts, or 9 volts to run small logging tape recorders or other "lightweight" devices. There is not enough current to run a handheld directly off of the regulated power output circuit. There also is a supplied 500-milliamp AC charger, but at 500 mls, I would consider this more a weeklong trickle





The left 12-volt input jack needs to be rewired to the 10-amp fused battery direct—not through the regulator.



This \$50 system contains an internal 7-amp-hour battery to run mobile VHF and HF emergency radios.

charger than I would an overnight recharge.

You also can run small pieces of 12-volt equipment off of the built-in cigarette-lighter receptacle output jack that goes through the 10-amp fuse. I wouldn't run more than 5 amps through the circuit because the wires looked relatively small to handle any more current than this on long transmit periods. If you really want a lot of current capability, run from the two output posts inside the back cover, which go directly to the positive and negative terminals on the internal lead-acid battery.

We were also told that some supplied Power Station lead-acid batteries may not be YUASA batteries. Local battery experts claim 7-amp-hour "lookalikes" made in China have nowhere near the "staying power" as a made-in-the-U.S.A. YUASA battery. During my tests, I couldn't agree more—my original "made-in-China" lead-acid battery not only couldn't hold a charge for a few minutes, but also looked like it was taken out of service in an early life. I was supplied with a replacement battery, a YUASA, and it worked well. I am told that a made-in-the-U.S.A. YUASA has slightly heavier plates than import YUASA batteries, and I also was told that YUASA—either import or domestic—have heavier plates than similar-sized batteries made in China. So if you want the very last milli-amp of current capacity, swap out the internal battery with a made-in-the-U.S.A. YUASA-

Exide battery, and get set for 3.5 kilograms of 12-volt power.

And if you even need more ampere hours than this, there is a 14-amp-hour Super Power Station also available from the Ham Contact in Long Beach, Calif. For

more technical information about these Power Stations for emergency communicators, call (310) 433-5860 for Joe Brancato, N6YYO, and he will give you the scoop on what will meet your emergency power requirements.

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# You Should Know

BY CAPT. WILLIAM MAULDIN, WG4R

INTERESTING THOUGHTS AND IDEAS FOR ENJOYING THE HOBBY

## Questions and Answers

**N**ormally I devote this column to a single subject. However, during the past few months, there have been many letters and comments regarding past subjects. This month I will be answering as many of these letters as space allows.

### Scanner Use On Airlines

Several months ago, I devoted a column to legally using a portable scanner on board a commercial airplane. We all know for many years both the Federal Aviation Administration and the Federal Communications Commission set strict rules regarding the use of portable electronic devices on board commercial airliners.

The rule still is there, however, many changes have taken place. One important change allows the airlines to adjust the rule to a limited degree. Airlines now can allow the use of electronic devices that have been "predetermined" not to interfere with the electronics of their aircraft.

Many readers with some knowledge of Federal Air Regulations responded in total disbelief when the article was printed. Others have written saying that they recently took a flight and the use of a scanner was totally forbidden by the carrier. Others

have written to tell of enjoyable flights using their scanners. In response, you must remember that each individual airline must take the steps to select the portable electronic devices that they would like to allow, then tests must be done to conform with current Federal Air Regulation.

Not all airlines allow scanner use. Delta, for example, does. USAir does not. Remember, if you are a scanner user, check with the airline that you are planning to use. The in-flight magazine of most airlines tell what is and is not allowed. Delta's Sky magazine says that "VHF scanners" are allowed, but only during the cruise portion of the flight. Use is not allowed during taxi, takeoff, climb, descent or landing. If you should use a scanner in flight, I would suggest a window seat that is not over the wing, and an earphone so as not to disturb passengers around you.

### 900 MHz Cordless Phones

The marketplace is flooded with advertisements for new 900-MHz cordless telephones. Ads are telling prospective buyers about the added privacy that new 900-MHz cordless phones provide, and that in

addition to complete privacy protection, there is greater range.

Stories in electronics magazines, trade publications and Internet newsgroups are starting to alert 900-MHz cordless telephone buyers of possible problems. When the FCC opened the 900-MHz frequencies for things such as cordless phones, wireless speakers and so on, they failed to consider that some of these devices would conflict with each other in high-density living communities.

The problem is so severe in some high-density apartments and condos that the new cordless phones will not even access a dial tone when more than a few feet from the base set. Wireless speakers and the 900-MHz system that "broadcasts" the sound from the source to the speakers is one notable problem. The cordless 900-MHz phone in Apartment 3C does not get along with the wireless stereo speakers in 3F at all, according to one user. The cordless phone is the loser in this battle.

If you are considering the purchase of a 900-MHz digital cordless telephone for whatever reason, be sure you keep your receipts. Even in single-family housing, if your neighbor has another modern electronic device also using 900 MHz, there is a possibility of interference. You may not get the static-free, increased range that the manufacturer promised.

### Scanning a Trunked System

Many letters followed the article that I did on scanning. With more and more public safety dispatch systems making the costly move to 800 MHz and trunked systems, scanning local police has become increasingly difficult. One question that I get several times a month is: Is anyone working on a scanner that will allow me to listen to my local police now that they have gone to an 800-MHz trunked system? The answer is yes. Several of the leading manufacturers are looking into this.

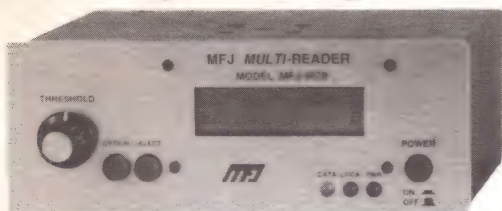
If the local police system is a digital system in addition to being trunked, then you probably are going to have to look for something else to monitor on your scanner. However, if your local police only use a trunked system and the signals are not digital, you probably will be able to buy





# Tap into secret Shortwave Signals

Turn mysterious signals into exciting text messages with this new MFJ MultiReader™



**MFJ-462B** Plug this self-contained MFJ MultiReader™ into your shortwave receiver's earphone jack.

Then watch mysterious chirps, whistles and buzzing sounds of RTTY, ASCII, CW and AMTOR turn into exciting text messages as they scroll across your easy-to-read LCD display.

You'll read interesting commercial, military, diplomatic, weather, aeronautical, maritime and amateur traffic... traffic your friends can't read -- unless they have a decoder.

## Eavesdrop on the World

Eavesdrop on the world's press agencies transmitting *unedited* late breaking news in English -- China News in Taiwan, Tanjug Press in Serbia, Iraqi News in Iraq -- all on RTTY.

## Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a "first rate easy-to-operate active antenna... quiet... excellent dynamic range... good gain... low noise... broad frequency coverage."

Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz to 30 MHz.

Receives strong, clear signals from all over the world. 20dB attenuator, gain control, ON LED. Switch two receivers and aux. or active antenna. 6x3x5 in. remote has 54 inch whip, 50 ft. coax. 3x2x4 in. 12 VDC or 110 VAC with

**\$129<sup>95</sup>** MFJ-1024 MFJ-1312, \$129.95.

## Indoor Active Antenna

**MFJ-1020B**  
**\$79<sup>95</sup>**

Rival outside long wires with this *tuned* indoor active antenna. "World Radio TV Handbook" says MFJ-1020 is a "fine value... fair price... best offering to date... performs very well indeed."

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as preselector with external antenna. Covers 0.3-30 MHz. Has Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip. 6x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312B, \$129.95.

## Compact Active Antenna

**MFJ-1022**  
**\$39<sup>95</sup>**

Plug this new compact MFJ all band active antenna into your general coverage receiver and you'll hear strong clear signals from all over the world from 300 KHz to 200 MHz -- including low, medium, shortwave and VHF bands.

Also improves scanner radio reception on VHF high and low bands.

Detachable 20 in. telescoping antenna. 9 volt battery or 110 VAC with MFJ-1312B, \$129.95. 3 1/4x1 1/4x4 in.

Copy RTTY weather stations from Antarctica, Mali, Congo and many others. Listen to military RTTY passing traffic from Panama, Cyprus, Peru, Capetown, London and others. Listen to hams, diplomatic, research, commercial and maritime RTTY.

Listen to maritime users, diplomats and amateurs send and receive error free messages using various forms of TOR (Telex-Over-Radio).

Monitor Morse code from hams, military, commercial, aeronautical, diplomatic, maritime -- from all over the world -- Australia, Russia, Hong Kong, Japan, Egypt, Norway, Israel, Africa.

## Printer Monitors 24 Hours a Day

MFJ's exclusive TelePrinterPort™ lets you monitor any station 24 hours a day by printing their transmissions to your Epson compatible printer.

Printer cable, MFJ-5412, \$9.95.

## MFJ MessageSaver™

You can save several pages of text in 8K of memory for re-reading or later review.

## High Performance Modem

MFJ's high performance phaselock loop modem consistently gives you solid copy -- even with weak signals buried in noise. New threshold control minimizes noise interference -- greatly

improves copy on CW and other modes.

## Easy to use, tune and read

It's easy to use -- just push a button to select modes and features from a menu.

It's easy to tune -- a precision tuning indicator makes tuning your receiver easy for best copy.

It's easy to read -- the 2 line 16 character LCD display with contrast adjustment is mounted on a sloped front panel for easy reading.

Copies most standard shifts and speeds. Has MFJ AutoTrak™ Morse code speed tracking.

Use 12 VDC or use 110 VAC with MFJ-1312B AC adapter, \$129.95. 5 1/4x2 1/2x5 1/4 inches.

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Then if you're not completely satisfied, simply return it within 30 days for a prompt and courteous refund (less shipping).

Order today and try it -- you'll be glad you did.

## Receive Color News Photos, MFJ 12/24 Hour LCD Clocks

**MFJ-1214PC**

**\$149<sup>95</sup>**

Use your

computer and radio to receive and display brilliant full color FAX news photos and incredible WeFAX weather maps with all 16 gray levels. Also RTTY, ASCII and Morse code.

Animate weather maps. Display 10 global pictures simultaneously. Zoom any part of picture or map. Frequency manager lists over 900 FAX stations. Automatic picture capture and save.

Includes interface, easy-to-use menu driven software, cables, power supply, comprehensive manual and Jump-Start™ guide. Requires 286 or better computer with VGA monitor.

## Super Hi-Q Loop™ Antenna

The Super Hi-Q MFJ-1782 Loop™ is a professional quality remotely tuned 10-30 MHz high-Q antenna.

It's very quiet and has a very narrow bandwidth that reduces receiver overloading and out-of-band interference.

## High-Q Passive Preselector

**MFJ-956**  
**\$39<sup>95</sup>**

The

MFJ-956 is a high-Q passive LC preselector that lets you boost your favorite stations while rejecting images, intermod and other phantom signals. Covers 1.5-30 MHz. Has preselector bypass and receiver grounded position. 2x3x4 in.

## Mobile Scanner Ant.

Cellular MFJ-1824BB/BM

look-a-like. Covers 25-1300 MHz. Highest gain on 406-512 and 108-174 MHz, 19 in. Magnet mount. MFJ-1824BB has BNC/UHF plug; MFJ-1824BM has Motorola plug.

## MFJ Antenna Matcher

**MFJ-959B**

**\$89<sup>95</sup>**

Matches your antenna to your receiver so you get maximum signal and minimum loss.

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Pushbuttons let you select 2 antennas and 2 receivers. Cover 1.6-30 MHz. 9x2x6 inches. Use 9-18 VDC or 110 VAC with MFJ-1312, \$129.95.

## High-Gain Preselector

**MFJ-1045C**

**\$69<sup>95</sup>**

High-gain, high-Q receiver preselector covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Pushbuttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18VDC or 110 VAC with MFJ-1312B, \$129.95.

## Dual Tunable Audio Filter

**MFJ-752C**  
**\$99<sup>95</sup>**

Two separately tunable filters let you peak desired signals and notch out interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and speaker or phones. 10x2x6 in.

## Easy Up Antennas Book

How to build MFJ-38  
**\$16<sup>95</sup>**

and put up inexpensive, fully tested wire antennas using readily available parts that'll bring signals in you've never heard before.

Covers receiving antennas from 100 KHz to almost 1000 KHz. Includes antennas for long, medium and shortwave, utility, marine and VHF/UHF services.

**MFJ-107B**

**\$9<sup>95</sup>**

**MFJ-108B**

**\$19<sup>95</sup>**

**MFJ-105B**

**\$19<sup>95</sup>**

**MFJ-108B**, dual clock displays 24 UTC and 12 hour local time simultaneously. **MFJ-107B**, single clock shows you 24 hour UTC time. 3 star rated by Passport to World Band Radio!

**MFJ-105B**, accurate 24 hour UTC quartz wall clock with large 10 inch face.

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**MFJ-1704**  
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**MFJ-1704** heavy duty antenna switch lets you select 4 antennas or ground them for static and lightning protection. Unused antennas automatically grounded. Replaceable lightning surge protection device. Good to 500 MHz. 60 dB isolation at 30 MHz.

**MFJ-1702B** for 2 antennas.

## World Band Radio Kit

**MFJ-8100K**  
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**MFJ-8100W**

**\$79<sup>95</sup>**

Build this regenerative shortwave receiver kit and listen to shortwave signals from all over the world with just a 10 foot wire antenna.

Has RF stage, vernier reduction drive, smooth regeneration, five bands.

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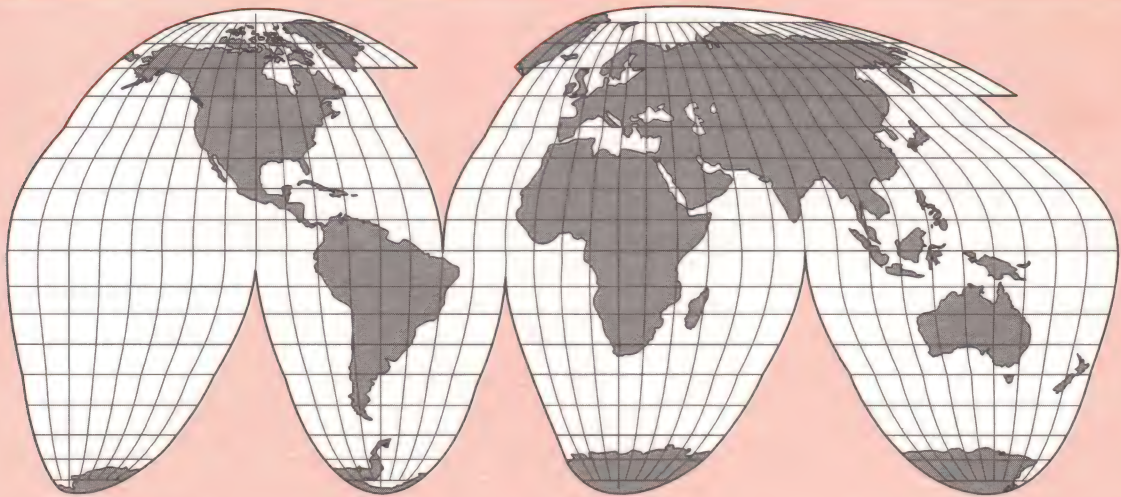
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# POP'COMM's World Band Tuning Tips

April 1996

This POP'COMM feature is designed to help you hear more shortwave stations. Each month this handy, pullout guide shows you when and where to tune to hear a wide variety of local and international broadcasters on the shortwave bands. The list includes broadcasts in languages other than English. Most of the transmissions are not beamed to North America. Keep in mind that stations make frequent changes in their broadcasting times and frequencies.

Changes in propagation conditions may make some stations difficult or impossible to receive. Your equipment and receiving location also will have a bearing on what you are able to hear.

Note: EE, FF, PP, etc., are abbreviations for English, French, Portuguese, and so on. Some frequencies may vary slightly. All times are in UTC, which is five hours ahead of Eastern Standard Time (i.e., 0000 UTC equals 7 p.m. EST).

Freq.	Station/Country	UTC	Notes	Freq.	Station/Country	UTC	Notes
2360	Radio Maya de Barillas, Guatemala	1100	SS/local	4910v	Zambia National Bc System	0300	
3200	TWR, Swaziland	0400	GG	4915	Radio Anhanguera, Brazil	0800	PP
3280	La Voz del Napo, Ecuador	1000	SS	4920	Radio Quito, Ecuador	0200	SS
3290	Namibian Broadcasting Corp.	0400		4930	Radio Internacional, Honduras	0200	SS
3300	Radio Cultural, Guatemala	0300		4934	Radio Tropical, Peru	0400	SS
3306	ZBC Radio 2, Zimbabwe	0400	vern	4955	Radio Nacional, Colombia	0300	SS
3325	Radio Mundial, Brazil	0400	PP	4960	HRET, Honduras	0230	SS
3356	Radio Botswana	0300		4975	Radio Timbira, Brazil	0000	PP
3366	GBC, Ghana	0600		4996	Radio Andina, Peru	0400	SS
3380	Radio Chortis, Guatemala	0300	SS	5030	Adventist World Radio, Costa Rica	0200	
3925	Radio Tampa, Japan	1000	JJ	5045	Radio Cultura do Para, Brazil	0230	PP
3955	Channel Africa, South Africa	0330		5055	TIFC, Costa Rica	0400	
4005	Vatican Radio	0500	FF/EE	5290	Krasnoyarsk Radio, Russia	1000	RR
4460	Radio Norandina, Peru	0300	SS	5850	Monitor Radio, USA	0500	
4615	Republic of Iraq Radio	0150	s/on AA	5882	Vatican Radio	0745	
4725	Radio Myanmar, Burma	1200	Burmese	5895	Croatian Radio	0400	
4753	RRI Ujang Pandang, Indonesia	1200	II	5900	Radio Vlaanderen Int'l, Belgium	0000	
4770	Radio Nigeria, Kaduna	0500		5940	Radio Vilnius, Lithuania	0000	EE Sun/Mon
4780v	Radio Oriental, Ecuador	1000	SS	5940	Voice of Vietnam, via Russia	0100	
4785	Ecos del Combeima, Colombia	0200	SS	5954	Radio Casino, Costa Rica	1130	SS
4790	Radio Atlantida, Peru	0300	SS	5995	Radio Australia	1300	
4815	Rdf. Londrina, Brazil	0800	PP	6015	Radio Austria Int'l, via Canada	0530	
4820	La Voz Evangelica, Honduras	0300		6015v	Radio Mira, Colombia	0200	SS
4830	Radio Tachira, Venezuela	0200	SS	6019v	Radio Victoria, Peru	0430	SS
4835	Radio Tezulutlan, Guatemala	0200	SS/local	6020	Radio Netherlands	2345	
4860	All India Radio, Delhi	1300		6035	Deutsche Welle, Germany	0230	
4870	ORTB, Benin	0530	FF	6050	HCJB, Ecuador	0700	
4885	Ondas del Meta, Colombia	0200	SS	6080	Radio Australia	0800	Pidgin EE
4890	NBC, Papua New Guinea	1200		6089v	Radio Nigeria, Kaduna	0430	



Freq.	Station/Country	UTC	Notes	Freq.	Station/Country	UTC	Notes
6100	Radio New Zealand	0800		11740	Radio Jordan	1930	AA
6105	Radio Universidad, Costa Rica	0100	SS	11760	Radio Havana Cuba	2200	SS
6110	Radio Japan, via Canada	1100		11780	Radio Nacional Amazonia, Brazil	0000	PP
6115	Radio Universidad, Mexico	1200	SS	11790	Radio Japan	0100	
6120	Radio Canada Int'l	0200		11800	RAI, Italy	0050	
6135	Swiss Radio Int'l	0100		11815	Polish Radio Warsaw	1300	
6140	Radio Tirana, Albania	0230		11835	Sri Lanka Broadcasting Corp.	1100	
6150	VOIRI, Iran	0030		11840	Radio Portugal Int'l	0130	
6170	Radio Cultura, Brazil	0900	PP	11850	Radio Norway	1600	
6190	Radio Budapest, Hungary	0200		11870	Radio Yugoslavia	0430	
6305	La Voz del Cid (clandestine)	0400	SS	11885	UAE Radio, Abu Dhabi	2300	
6550	Voice of Lebanon	0400	AA	11890	Radio Oman	1300	AA
7115	Radio Yugoslavia	0100		11895	Radio Japan, via French Guiana	0300	
7115	Radio Sweden	0230		11900	Radio Finland Int'l	1530	
7147v	Republic of Iraq Radio	0158	s/on AA	11915	Radio Gaucha, Brazil	0900	PP
7160	Radio Tirana, Albania	0130		11940v	Voice of Cambodia	0000	
7185	Radio Bangladesh	1230		11955	Radio Nacional Angola	2300	PP
7200	Radio Afghanistan	0130		11970	Radio Jordan	1700	
7210	Qatar Broadcasting Station	2100	AA	11995	FEBC, Philippines	1500	
7250	All India Radio, Panaji	0128	s/on	12020	Voice of Vietnam	2330	
7255	Voice of Nigeria	0500		12085	Radio Damascus, Syria	2030	
7290	Radio Tanzania, via South Africa	0300		13635	Swiss Radio Int'l, via French Guiana	0030	
7300	Radio Slovakia Int'l	0100		13670	Radio Vlaanderen Int'l, Belgium	1300	
7345	Radio Prague, Czech Republic	0600		13675	UAE Radio, Dubai	1630	
7418v	Kol Israel	2000		13730	Radio Austria Int'l	1130	
7480	Radio Bulgaria	0000		13745	Radio Australia	2230	
7480	Voice of Armenia	0100		13750	Adventist World Radio, Costa Rica	2300	
9000	Sudan National Broadcasting Corp.	1400	AA	13765	Vatican Radio	2000	GG
9420	Voice of Greece	0130		15084	VOIRI, Iran	2000	
9445	Voice of Turkey	2330	TT	15095	Radio Damascus, Syria	2030	
9475	Radio Cairo, Egypt	0200		15115	Radio New Zealand	0000	
9530	Radio Singapore	1230		15150	Radio Canada Int'l	2100	
9535	Swiss Radio Int'l	0500		15170	Radio Jordan	1100	
9540	Radio Espana Exterior, Spain	0100		15180	Voice of Russia	0300	
9560	Radio Norway	0100		15200	Radio Portugal	1900	PP
9560	Radio Almaty, Kazakhstan, via Ukraine	0630	EE	15210	Radio France Int'l	1700	FF
9570	Radio Portugal	0230		15240	Channel Africa	1600	
9570	Radio Romania Int'l	0200		15240	Radio Sweden	1330	
9580	Africa Number One, Gabon	1900	FF	15244	La Voix du Zaire	1800	
9580	Radio Yugoslavia	0000		15265	Radiobras, Brazil	1700	
9585	Channel Africa, South Africa	0400		15270	Radio Intercontinental, Armenia	1730	EE/GG
9590	KTWR, Guam	1130	CC	15315	Radio Netherlands, via Bonaire	1830	
9590	Radio Netherlands, via Bonaire	0400		15345	RTV Morocaine, Morocco	1800	AA
9615	KNLS, Alaska	0800		15350	Voice of Turkey	1330	s/on TT
9620	Radio Ukraine Int'l	2200		15400	Radio Finland Int'l	1330	
9650	Radio Bangladesh	1230		15405	Radio France Int'l	1400	
9675	Radio Cancao Nova, Brazil	0700		15435	UAE Radio, Dubai	0500	
9690	China Radio Int'l, via Spain	0300		15435	Radio Tanzania, via South Africa	1300	
9700	Radio Bulgaria	0000		15460	Adventist World Radio, Costa Rica	2200	
9700	Radio New Zealand Int'l	1100		15475	Africa Number One, Gabon	2100	FF
9705	Radio Mexico Int'l	2200	SS	15490	HCJB, Ecuador	1800	
9725	RAI, Italy	0100		15505	Radio Kuwait	1700	AA
9725	Radio Clube Paranaense, Brazil	2100	PP	15530	Radio Australia	1200	
9750	Radio Japan	1400		15570	Vatican Radio	1745	
9755	Radio Canada Int'l	0000		15575	Radio Korea, South Korea	0030	
9770	Voice of UAE, Abu Dhabi	2300		15590	Vatican Radio	1345	
9810	FEBA, Seychelles	1615	s/on	15630	Voice of Greece	1430	GG
9805	Radio France Int'l	1200		15640	Kol Israel	1515	
9820	Radio Havana Cuba	0100	USB	15665	Monitor Radio, USA	1800	
9835	Radio Sweden	1230	s/on	15675	Radio Pakistan	1400	
9840	Radio Kuwait	0500	AA	16300	Radio Rossii, Russia	1700	RR
9850	Radio Budapest, Hungary	0330		17500	RTT, Tunisia	1330	AA
9870	Radio Austria Int'l	0130		17525	Voice of Greece	1330	GG/EE
9900	Radio Cairo, Egypt	2300		17545	Reshet Bet service, Israel	1200	HH
9905	Swiss Radio Int'l, via French Guiana	0500		17595	Radio Cairo, Egypt	1230	
9940	Vatican Radio	1600		17605	Radio Netherlands	1830	
11580	Radio Moldova Int'l, via Romania	1930		17625	Radio Bulgaria	1200	
11605	Radio Bulgaria	1230		17630	Africa Number One, Gabon	1430	FF
11615	Radio France Int'l	1600		17670	Swiss Radio Int'l	1500	
11640	Voice of Greece	2330		17740	Radio Finland Int'l	1430	
11670	Radio France Int'l, via French Guiana	0130	SS	17800	Deutsche Welle	1600	
11685	Kol Israel	1900		17810	Radio Japan	2300	
11700	Radio Pyongyang, N. Korea	2300		17820	Radio Canada Int'l	1300	
11710	RAE, Argentina	0200	EE	17825	UAE Radio, Dubai	1300	
11715	China Radio Int'l, via Mali	0300		17870	RAI, Italy	1730	II
11730	Trans World Radio, via South Africa	0600		17900	Radio Portugal	2000	PP
				21605	UAE Radio, Dubai	1600	AA



a scanner that will follow the trunked system soon.

The protocol of trunking is not a copy-right program. Standard trunking protocol is public domain. Where there is a marketplace and a buyer, you can bet there will soon be a product to purchase. The digital radio system of each manufacturer is copy-right-protected, and without some knowledge of the protected system, monitoring is not possible. I might add here that eventually you will see the same trunking that is being used on 800 MHz in other frequency bands.

## Digital Broadcasting

The article that we did several months ago on proposed digital AM radio broadcasting brought lots of mail. Many educated writers had additional bits of information. Others wanted to know more about the new digital AM radio and when it might start. As this article is being written, tests still are being run and standards still are being established, but this new system is moving right along. Car manufacturers now are showing an interest in the new static-free and fade-free AM broadcasting, and have

expressed an interest in installing new digital car radios in the next few years. Although you are not seeing news articles in your local paper on this subject on a daily basis, many of the broadcast industry and National Association of Broadcasters trade articles do indicate digital AM radio will be with us in the next few years.

One trade publication that deals with satellite news carried an interesting article about the new digital satellite radio broadcasting that also is in the works. One industry leader said that digital satellite radio soon will allow you, for example, to select the format of the music that you like on your car radio. And, with a small palm-size satellite radio antenna, you could drive from San Francisco to New York and listen to your favorite songs without ever touching the station selector. The signal of the satellite would be monitored internally in your car satellite radio receiver, and the system would automatically retune to the strongest signal, providing an uninterrupted satellite broadcast to your car receiver. We have not even scratched the surface of radio broadcasting with the pending AM digital broadcasting proposals and the satellite broadcasts that are proposed. We

will continue to keep you updated on both of these subjects in future articles.

## Maps Aid In-Flight Following

Our article on how to monitor and enjoy listening to the commercial airliners as they fly across the oceans and give routine position reports brought in several interesting letters. In one letter, Jim, N1IXA, mentioned that his enjoyment of listening to and following aircraft as they cross the oceans is greatly increased by using a flight-following map that covers oceanic areas. Jim mentioned that you can buy these maps from the U.S. Department of Commerce, Annapolis Junction, MD 20701. There is a free catalog available that lists all the products and maps available from the government.

I might also suggest that you visit your local airport. Stop by the local fixed base operations office. This is the on-field business that serves the small private aircraft and local pilots. Normally, the fixed base operator carries a good selection of sectional and WAC charts for your area and surrounding areas. The maps are very interesting, easy to read and can provide you with a wealth of information. ■

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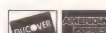
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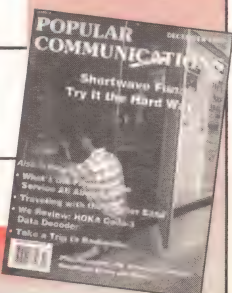
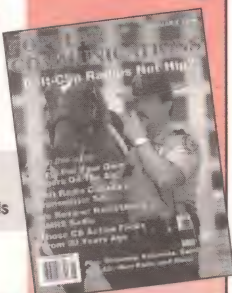
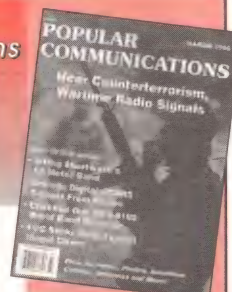
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# The Ham Column

BY KIRK KLEINSCHMIDT, NT0Z  
AMERICAN RADIO RELAY LEAGUE HQ

## GETTING STARTED AS A RADIO AMATEUR

### Successful Flea Market Selling

**S**pring already has sprung in most parts of the country by now. Regardless of the past winter's severity, spring shouts "hamfest season is here!" to every ham who lives north of southern California (where it's hamfest season all year long).

Crowds of eager hamfest buyers soon will gather in search of "stuff" to acquire. You can benefit from the craze. How? If you're looking to upgrade your station equipment or accessories—and you don't have tons of extra cash on hand—take advantage of "flea market fever" by selling your existing gear at a hamfest to finance all or part of your new setup.

Whether you're a total greenhorn when it comes to hamfest salesmanship, or a somewhat seasoned veteran, this month's column is full of hamfest how-to tips that will help you learn the ropes and make the most of what is sometimes an intimidating experience: Selling stuff to other humans (well, hams!) face to face.

Everyone wants a good deal (that's why they buy gear at hamfests in the first place!)—but you the seller need to make out OK, too. A win-win scenario is what we're looking for.

### Tricks of the Trade

Selling ham gear for premium prices usually involves more than simply driving a hard bargain (although that works when the buyer just has to have exactly what you're selling...a departure from the win-win scenario).

Here's how to turn an average hamfest selling day into an excellent experience:

- Appearance:** We're talking about you, your table and your gear! Think of your hamfest table as a storefront. For example, if you walked into your local Wal-Mart store and found dirty, crusty merchandise strewn across the aisles and greasy-haired employees clothed in ragged overalls, you'd probably look behind the nearest display rack for Rod Serling or Allen Funt (that's *The Twilight Zone* and *Candid Camera* for you MTV-generation hams!).

Everyone feels comfortable shopping at Wal-Mart because the store is clean and brightly lit, the employees are neat, clean and friendly, and so on. The moral of this story? Make your hamfest table look like "the Wal-Mart table!"

Clean up your gear, display it neatly using some logical arrangement, and make index card signs for the big-ticket items, listing the details and the price. You don't have to wear a Brooks Brothers suit (which might even cut into your business!), but

dress casually and presentably.

Even with a little upfront effort, you might not sell all of your merchandise—but you won't scare away people, either!

- Setup and location:** Hamfests are a lot like trade shows in the sense that the location of your table sometimes can make a difference in the number of potential customers who browse. This is more important for large events (Dayton, ARRL conventions, etc.), where you don't want to get stuck in some out-of-the-way corner or hallway with limited visibility and traffic.

Having AC or DC power available right at your table sometimes can help you make a sale. After all, most hamfest buyers are afraid of buying a rig that has a lot of problems or doesn't work as claimed. Being able to plug the thing in and test its operation right on the spot can be a big benefit. In addition, chattering radios and other gadgets in operation at your table attract more shoppers (why not try having your own "blue-light specials?").

- Realistic pricing:** This is a biggie! It's a hamfest, folks! Don't price your used (and sometimes abused) gear as though you were suddenly promoted to sales manager for Neiman Marcus! Remember the win-win scenario?

Your sickly sweet sentimental attachment to your first radio or the keyer that Uncle Al used to work the sinking Titanic doesn't faze a potential buyer (unless the item you're selling has historical value beyond your personal attachment!). Be reasonable—that's how to sell stuff at hamfests.

Events on the East and West coasts generally feature slightly (to wildly) higher prices overall. The best prices generally can be found in the South and the Midwest.

- Talk it over:** Many flea market attendees are tire kickers, it's true. But with a little salesmanship, many a tire kicker has been "persuaded" to take home merchandise. I'm not talking about lies and coercion, just about talking to the folks who walk by and take a peek at your stuff.

People like to joke, laugh and have fun (even hams!), so I always blurt something out when I catch someone peeking at the stuff on my table. "I knew you were coming by today so I brought along the little Heathkit just for you. Will that be cash or charge?" "Hey! This keyer has your name on it. See, it's right here! Come on over and check it out for yourself!" "My truck broke down in the parking lot, so you guys are gonna have to buy all this stuff—so don't be shy! You, sir, what will you be taking home today?"

This breaks the ice and sets the stage for friendly chatter. Not everyone should be this goofy, of course, but if you can clown around a bit and still keep your dignity, you'll sell stuff and have fun, too.

- Negotiating:** You can rarely haggle over prices at Wal-Mart, but nearly every price at a hamfest is at least somewhat negotiable. People will ask you to sell your stuff for less than your asking price, they'll ask you for "volume discounts," and they'll ask you to accept trades.

You should at least be comfortable in jockeying your prices a bit, and if you can take a trade, that's just fine. It's your show, but by being flexible you'll be more successful. A 10 to 15 percent reduction in price seems about right. Anything more turns haggling into railroading!

By the way, you don't have to wait for your customers to start haggling—you can get the ball rolling by offering a deal of your own: "If you buy the Heathkit for my asking price, I'll throw the keyer paddle in for free!" Try it. It works and it gets rid of stuff that you may have a hard time selling solo.

- Terms and guarantees:** Let's face it—many hams don't buy hamfest stuff because they're afraid of getting ripped off or of buying some junky thing that won't work right once they get it home. There's no getting around this, but you can ease fears by selling honestly represented gear and offering reasonable terms.

Many sellers (myself included) offer a five-day money-back guarantee, especially for big-ticket items like transceivers, etc. I hold onto a customer's payment for that time to make sure he or she is happy with the deal. Why would you want an unhappy ham customer, anyway?

- Miscellaneous tips:** (1) Arrive early! Many of my best sales are to other sellers, who relish the opportunity to pour over everyone's stuff before the masses get through the gates. If you set up as early as possible, you won't have to try to sell and set up at the same time, and you'll be free to search for your own goodies to buy! (2) Be prepared for weather changes if your event is outdoors. (3) Bring a friend or helper so you're not tied to your table for the whole show. (4) Bring lots of change and dollar bills. (5) Accept local checks only, or checks from buyers you know personally. Cash—not Elvis—is king!

There you have it! Happy hamfesting! As usual, send your photos, letters and column suggestions to me at American Radio Relay League, Dept. PCN, 225 Main St., Newington, CT 06111. See you next month. ■



# Listening Post

BY GERRY L. DEXTER

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

## Anguilla Gets New Shortwave Station

**T**he Caribbean Beacon, a medium-wave religious station at 1610 kHz on the island of Anguilla, should have a shortwave sister soon. A transmitter and antenna have been installed and are ready to go. Test broadcasts will begin as soon as certain licensing problems are worked out with the government. They were not expecting a long delay, which means it's possible these tests even may be under way as you read this. We'll pass along times and frequencies as soon as we have them.

### Returning

Guyana Broadcasting Corp.'s shortwave outlet on 5950 has not been active for quite a while, but they are scheduled to return to its old frequency at any time and already may have done so. They also are scheduled to use 3290, which should be heard fairly easily in our North American evenings. Both transmitters will run 10 kW.

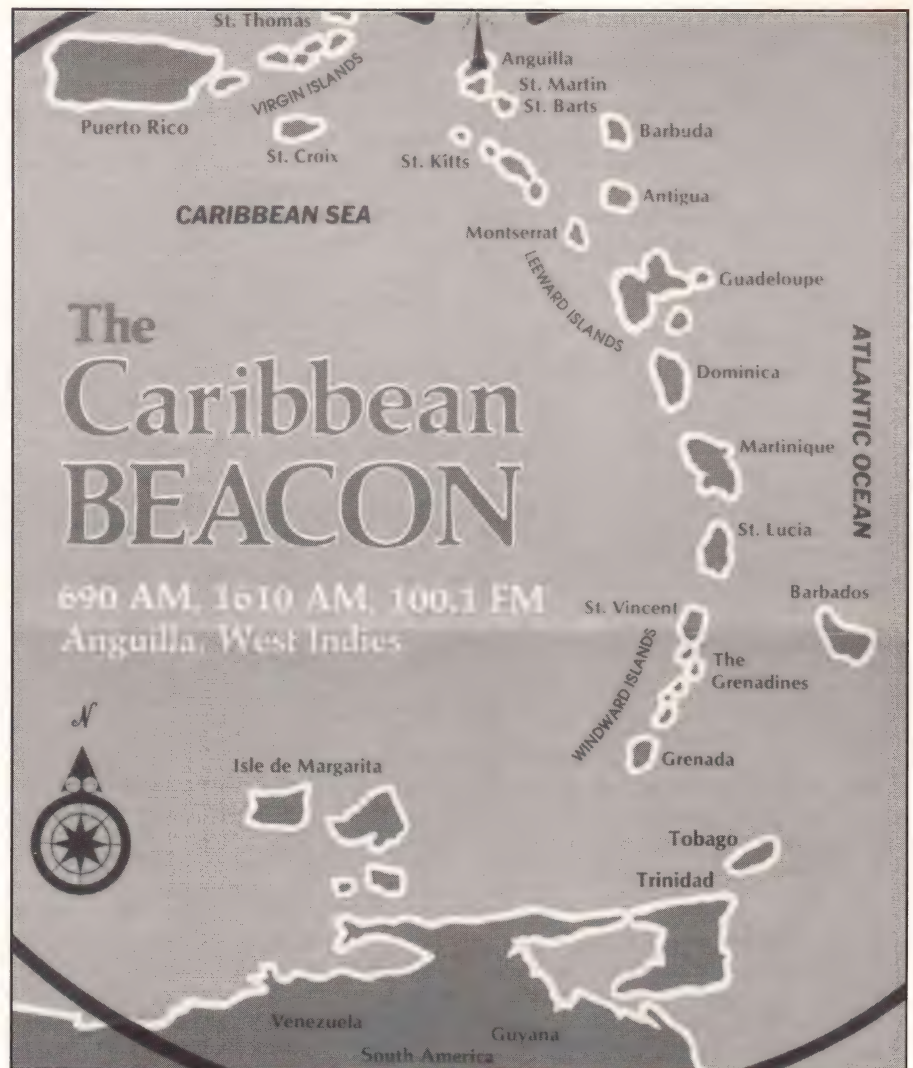
Also returning is Radio Afghanistan, which has reactivated its shortwave service and is now operating a 100-kW transmitter from Kabul. It's currently heard quite often on 7200 with sign-on beginning around 0125, and featuring a flute interval signal and time pips, followed by Koran recitations. An alternate frequency is 7260.

### Another Test?

Here's another sign of interest in shortwave by Radio Telefis Eireann, the Irish government's official station. Its programs now are being relayed over WWCR for audiences in North America and the Pacific, according to this schedule: 1000-1030 Monday to Friday, on 5065; 1100-1130, on 5065, Saturday/Sunday; 1930-2000 Monday-Friday, on 12160, Saturdays, 2000-2030, on 12160 and Sundays, 2100-2130, on 12160.

### Thin Wallets

U.S. religious broadcaster WVHA—The World Voice of Historic Adventism—has halved its power output (to 250 kW) and cut its schedule to just four hours a day to cut operating costs. Prophecy Countdown, which owns the station, was running at least three payments behind on the loan it took out to buy the station from the Christian Science Monitor.



*The Caribbean Beacon, from Anguilla, is expected to show up on shortwave soon.*

### Seaside Shutdown

Years ago, David L. Hollyer of Virginia worked for Radio Free Europe/Radio Liberty as deputy manager of its Playa de Plas transmitter site in Spain and later was called out of retirement to close down the RFE/RL operation there and turn it over to the IBB. We thank him for sending the following:

"After more than 36 years of shortwave broadcasting from Playa de Pals on the Costa Brava in Spain, Radio Free Europe/

Radio Liberty terminated its operation at midnight, Oct. 31, 1995.

"IBB (International Broadcasting Bureau), the new name for the original Voice of America, took over operation of the station in early November.

"The facility, employing six 250,000-watt transmitters, is situated on one of the most spectacularly beautiful beaches on the Costa Brava, with its curtain antennas located only a few meters back from the waters of the Mediterranean. The combination of its sophisticated high-gain anten-





## RADIODIFUSION ARGENTINA AL EXTERIOR

Buenos Aires, May 24, 1995

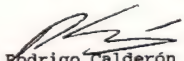
Dear Steve:

In answer to your kind request wishing to receive a schedule of our broadcasts, as well as a timetable and frequencies list, we include the same, hoping they will be of use to you, and that you will continue to hear our programmes.

As you will see in our schedule, the information you got from those shortwave magazines was correct, but unfortunately our signal is rather weak these days, due to lack of transmitting power. Therefore, our ability to reach your receivers is basically in the hands of Mother Nature.

Hoping you'll be able to hear from us soon.

We remain yours truly,

  
Rodrigo Calderón  
RAE - English Dept.

  
MARCELA G. R. CAMPOS  
DIRECTORA  
RAE Radiodifusión Argentina al Exterior

This QSL letter from RAE indicates they are on reduced power. (Thanks Steve Pellicciari, Connecticut)

nas (of 20dB or more) and the splendid reflection zone in front of them made it possible for the station to provide a superior signal to much of the former Soviet Union, reaching its targets even during the peak of the Cold War when jamming was at its maximum.

"The transfer of the station to the IBB marks the end of an era in the field of shortwave broadcasting and came about as a result of drastic reductions in the budget of the U.S. government and the decision to consolidate all U.S. shortwave broadcasting efforts under a single entity.

### Outta Here!

Deutsche Welle has had to close down and pull people out of its relay site at Trincomalee, Sri Lanka, because of flare-ups of fighting near the site in the northeast part of the country. The Sri Lankan army is guarding the facility. In the meantime, DW is renting extra time on Russian transmitters to make up for the loss of the Sri Lanka facility.

### Cutback In the Outback

The Australian government is funding Australia Television International, a satellite service. Unfortunately, that will take several million dollars away from Radio

Australia and the upshot of that action may be the closing of Radio Australia's Carnarvon transmitter site, costing the station more than half of its ability to reach its Asian listeners.

### VOA on RTTY

The Voice of America is using an SWBC frequency for test transmissions of digital data. The current schedule runs from 1315 to 2030 on 6165. The transmissions are 300 baud ASCII, 170 Hz shift. If you have the capability to receive radioteletype signals you might want to check this out.

### Information Wanted!

Your SWBC logs are sought and are always appreciated. List items by country, double space (at the least) between each and include your last name and state abbreviation after each. Also needed are shack and station photos, station brochures and schedules, spare QSL cards, information about station QSL policies and requirements and news and notes about shortwave broadcasting and the reception or verification of same. Thanks for your continued help!

Here are the logs. All times are Coordinated Universal Time (UTC), which is five hours ahead of EST, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, etc. The

#### Abbreviations Used in Listening Post

AA	Arabic
BC	Broadcasting
CC	Chinese
EE	English
FF	French
GG	German
ID	Identification
IS	Interval Signal
JJ	Japanese
mx	Music
NA	North America
nx	News
OM	Male
pgm	Program
PP	Portuguese
RR	Russian
rx	Religion/ious
SA	South America/n
SS	Spanish
UTC	Coordinated Universal Time (ex-GMT)
v	Frequency varies
w/	With
WX	Weather
YL	Female
//	Parallel Frequencies

language of the broadcast reported is assumed to be English (EE) unless indicated otherwise, such as FF=French, SS=Spanish, AA=Arabic, etc.

**ALBANIA**—Radio Tirana, 7160 at 0230. (Miller, WA) 7270 at 2350 with drama in presumed Albanian. (Williams, TX)

**ALGERIA**—Radio Algiers International, 15160 at 1812 with news. (Jeffery, NY) 15205.3 (drifting) and //17745 at 1621 in AA with local music, talk, fanfare and 1700 ID. Into EE at 1800. (Chambers, Dougherty—Mohawk Valley DXpedition, NY)

**ANGOLA**—Radio Nacional, 9535 with PP and Afropops, ID. (Paszkiwicz, WI)

**ANTIGUA**—BBC relay, 5975 at 0011, 6195 at 1026, 15220 at 1250. (Williams, TX)

Deutsche Welle relay, 11795 at 2316, 15275 at 1253. (Williams, TX)

**ARGENTINA**—Radio Nacional, Mendoza at 1025 in SS with ballads. (Williams, TX)

**ARMENIA**—Voice of Armenia, 9965 at 2100 with FF announcement, FF, EE, Armenian. (Miller, WA)

**ASCENSION ISLAND**—BBC relay, 17830 at 1309 to West and Central Africa, 21660 at 1311 to South Africa. (Williams, TX)

**AUSTRALIA**—ABC Radio, Alice Springs, on 2310, //2325 from Tennant Creek at 1220 with country music, talks. (Chambers, d'Avignon—Mohawk Valley)

Radio Australia, 5995 at 1608, 9710 at 1107 in Pidgin English, 9860 at 1759 with Indonesian service and 11880 at 1702. (Miller, WA) 5995 at 1205, 6145 in CC at 1325, 9580 at 1300, 9770 with CC/EE lessons at 1210. (Northrup, MO) 9580 at 0821, 9710 at 0824 and 9860 at 0830. (Williams, TX) 11880 at 0607. (Paszkiwicz, WI) 0613 with *Pacific Beat*. (Lamb, NY) 15365 at 2145 and 17860 at 0300. (Stanley, AZ)

**AUSTRIA**—Austrian Radio International, 6015 (via Canada) at 0630. (Pellicciari, CT) 9655 at 0123 in GG. (Miller, WA), 0130 in EE. (Stanley, AZ) 13730 at 1240 in SS, then into GG. (Williams, TX)

**BELGIUM**—Radio Vlaanderen International, 5900 (ex-6030) and //9925 at 0030 with ID and *Brussels Calling*. (Rocker—Mohawk Valley) 6030 (now 5900) at 0008 with news in SS. (Williams, TX) 13670 (Sundays only) at 1334 with *Brussels Calling*, ID and *Radio World*. (Lamb, NY)

**BOLIVIA**—Radio Illimani, presumed, 4945 at 1002 in SS. (Williams, TX)

**BRAZIL**—Radio Bandeirantes in PP on 6090 at 0340. (Miller, WA)

Radio Anhanguera, Goiania, 11830 in PP at 2237. (Miller, WA)

Radio Nacional do Amazonia, 6180 at 0808 and



11780 at 0834 with ID, both in PP. (Williams, TX)  
0715 in PP with phone calls. (Pellicciari, CT) 11780  
in PP at 0031. (Miller, WA)

Radiobras, 15445 at 1256 in PP. (Williams, TX)  
**BULGARIA**—Radio Bulgaria, 9700 at 2347 with  
ID, letters. (Stanley, AZ) 2045. (Pellicciari, CT) 0012.  
(Miller, WA)

**CAMEROON**—CRTL, Douala, 4795 at 2220 in  
FF with African music, Western pops, ID 2228.  
(d'Avignon—Mohawk Valley)

**CANADA**—CFCX relay of CIQC, Montreal, Que-  
bec, 6005 at 2100 with EE/FF/SS ID. (Pellicciari, CT)  
2154 with rock, news, female DJ. (Hallenbeck, ME)

CFRB relay of CFRB, Toronto, Ontario, 6070 with  
talk show at 2050. (Pellicciari, CT) 1017 and 1201.  
(Williams, TX)

BBC relay, 5965 at 1154. (Williams, TX)  
CHU time station, 7335 at 1033. (Williams, TX)  
Radio Korea International relay, 9650 at 1108 in  
KK. (Williams, TX)

Radio Canada International, 6150 at 0600.  
(Pellicciari, CT) 9625 in FF at 1305 (not CBC Northern  
Service?—Ed.), also 9635 at 1220 and 1315. (North-  
rup, MO) 9755 at 2228. (Miller, WA)

**CHILE**—Radio Esperanza, 6090 at 0905 in SS  
with religious program, mentions of Temuco, ID. Weak  
under Bandeirantes. (Chambers—Mohawk Valley)

**CHINA**—China Radio International, 6140 at  
1032 in CC. (Miller, WA)  
9730 at 0400. (Pellicciari, CT)

**COLOMBIA**—Radio Nacional, Bogota, 4955,  
signing off in SS at 0436. (Miller, WA)

La Voz del Llano, 6116 at 1204 in SS. (Williams,  
TX)

Caracol Bogota, 5075 at 0300 in SS. (Pellicciari,  
CT) 0843 and 1009. (Williams, TX) 0221. (Miller, WA)

**COSTA RICA**—AWR, Alajuela, 5030 in SS at  
0207. (Miller, WA)

5030 at 1150 with hymns, 6150 at 1206 with story  
hour, 9725 at 2332 with religious drama. (Williams,  
TX) 13750 at 2300 with ID, talk. (Stanley, AZ)

Faro del Caribe, 5054 in SS at 1151, 9645 at  
1220. (Williams, TX)

Radio Reloj, 4832 at 0645 in SS. (Pellicciari, CT)  
1146. (Williams, TX)

Radio Exterior de Espana relay, 5970 at 0012 and  
11815 at 1234 in SS. (Williams, TX)

Radio for Peace International, 7385 at 1320 in SS.  
(Northrup, MO) 15050 at 2030. (Pellicciari, CT) 2213.  
(Stanley, AZ)

**CROATIA**—Croatian Radio, 5895 at 0200 with  
five minutes of EE news. (Pellicciari, CT)

**CUBA**—Radio Rebelde, 5025 at 1148 in SS.  
(Williams, TX) 1155. (Northrup, MO)

Radio Havana Cuba, 6000/9820/9830 (USB) at  
0440 with *DXers Unlimited*. 15220 at 2030 in AA.  
(Pellicciari, CT) 9505 at 1215, 9550 at 1217 and  
11760 at 1232. (Williams, TX) 9550 in SS at 1310,  
9715 in SS at 1210. (Northrup, MO)

**DENMARK**—Radio Denmark, via Norway,  
11840 at 1646 in DD with EE ID. (Miller, WA)

**ECUADOR**—Emisora Progreso, 5060 in SS at  
1240. (Northrup, MO)

HCJB, 5900 at 0138 in Uzbek, into RR at 0147.  
(Lamb, NY) 6050 at 0332 in SS. (Miller, WA) 9415 at  
1101 in RR, 15115 in EE at 1245. (Williams, TX)  
15140 in SS at 2030. (Pellicciari, CT)

Radio Popular, Cuenca, 4800 at 1144 in SS.  
(Williams, TX)

**EGYPT**—Radio Cairo, 9900 at 2232. (Miller, WA)

**ENGLAND**—BBC, 5875 in SS at 0014, 13745  
in EE at 1243, 17695 in RR at 1304. (Williams, TX)  
5965 at 1230, 9515 at 1305. (Northrup, MO)  
5875//6110 at 0030 in SS, 5975//6175//7325 at  
0030. (Pellicciari, CT) 5990 at 1609, 6110 at 0347,  
9590 at 2231, 9740 at 1600, 11765 at 0056, 15400  
at 1934. (Miller, WA) 9827 at 2345 with country tunes,  
QRM. (9825? Nearly unheard of for the BBC to be off-  
frequency.—Ed.) (Hallenbeck, ME)

**EQUATORIAL GUINEA**—Radio Nacional, Bata,  
5003.6 at 2128 in SS with IDs, fanfare, time pips,  
news, pops. (Chambers—Mohawk Valley)

Radio Nacional, Malabo, 6250.5 at 2020 in SS  
with news, mentions of Malabo, anthem and off at  
2204. (Chambers—Mohawk Valley)

**FINLAND**—Radio Finland, 11735 at 1230 with

# CFRB 1010

AM STEREO

# CFRX 6070

SHORTWAVE

*Easily heard is CFRX, Toronto, Ontario, on 6070, which relays 1010 kHz  
mediumwave, CFRB.*



*A view of the former RFE/RL site at Playa de Pals, Spain, right on the Mediterranean  
shore. The site is now used by the VOA. (Thanks David L. Hollyer, Virginia)*

news, 15400 at 15400 in presumed Latin. (Williams,  
TX) 11785 at 1539 and 15400 at 1322. (Miller, WA)  
13645 at 1630 in Finnish. (Stanley, AZ)

**FRANCE**—Radio France International, 5920//  
9800 at 0400 in FF, 0500 in SS. (Pellicciari, CT) 9650  
at 1215 in FF. (Northrup, MO) 9800 at 0150 in SS.  
(Miller, WA) 11670 at 2322 in SS, 15365 at 1254 in  
FF. (Williams, TX) 12015 at 1729 in EE, 15300 at  
2006 in FF. (Stanley, AZ)

**FRENCH GUIANA**—RFO Guyane, 5055 in FF at  
0615. (Pellicciari, CT)

China Radio International relay, 9730 at 0400.  
(Jeffery, NY)

RFI relay, 11670 at 1229 in FF, 13625 at 1237,  
15515 at 1258 with IS, into FF at 1300, 17860 in SS  
at 1310. (Williams, TX)

**GABON**—Africa Number One, 9580 in FF at  
2220. (Miller, WA) 17630 at 1301 in FF. (Williams, TX)

Radio Japan relay, 11865 at 2139 with *Media  
Roundup*. 2200 sign-off. (Paszkievicz, WI)

**GERMANY**—Deutschlandradio, 6005 in GG at  
2243 with talks, pops, time pips, ID "Deutschlandradio,  
Berlin," and news. (Chambers—Mohawk Valley)

Deutsche Welle, 7390 in CC at 1315. (Northrup,  
MO) 9690 at 2334, 13690 at 1128 and 17765 at  
1308, to Africa. (Williams, TX) 11795 at 1559 in GG.  
(Miller, WA)

Radio Netherlands relay, 7130 at 1219. (Williams,  
TX)

**GHANA**—Ghana Broadcasting Corp., 4915 in EE  
at 2340. (Miller, WA)

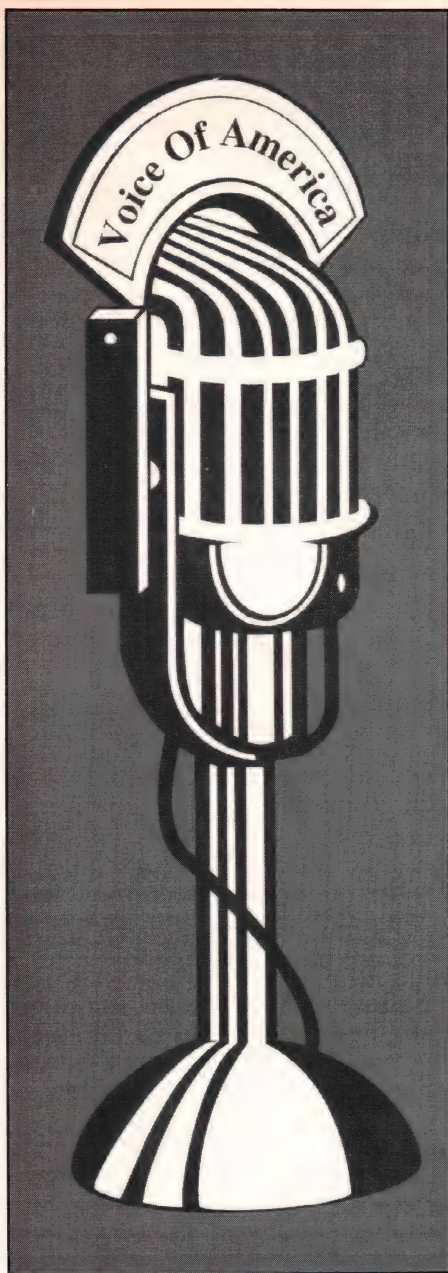
**GREECE**—Voice of Greece, 7450 at 0155, 9420  
at 0121, 17725 at 2220, all in Greek. (Miller, WA)

**GUATEMALA**—Radio Cultural Coatan, 4780 at  
0147 in SS. (Miller, WA) 1143 in SS. (Williams, TX)

Radio Tezulutlan, 4836 at 0200 in SS. (Pellicciari,  
CT)

Radio Cultural, 3300 at 0600 in SS with ID, music,  
presumed Christian drama. (Lamb, NY) 1135  
(Williams, TX)





*This red, white and black VOA bookmark has suggestions for improving shortwave reception on the reverse.*



*China Radio International's new broadcast center in Beijing will be ready for occupancy this year. It will contain more than 50 studios!*

**AIR** Panaji (Goa), 7250 at 0128 with IS, sign-on, talk. (Rocker—Mohawk Valley)

**AIR** Bangalore, 13750 at 1814 with news, music. (Jeffery, NY)

**INDONESIA**—Radio Republik Indonesia, Jakarta, 9680 at 1240 in II. (Miller, WA) 1225 with Western pops, II. (Williams, TX) 1258 in II with *Song of the Coconut Islands*, time pips, ID, news, mention of "programa nasional." (Lamb, NY)

**RRI** Pontianak, 3976.1 at 1150 in II with local music, *Song of the Coconut Islands*, ID, news. // 9680. (Chambers—Mohawk Valley)

**RRI** Ujung Pandang, 4753 at 2147 in IN with interview, II pops, *Song of the Coconut Islands*. (Lamb, NY)

**IRAQ**—Republic of Iraq Radio, 11675 in AA at 0027. (Miller, WA)

**ISRAEL**—Kol Israel, 7418 (nominal 7415), //9435 at 2005 with headlines. (Lamb, NY) 9435 in FF at 1625. Reshet Bet service on 11588 in Hebrew at 1615. (Miller, WA)

**ITALY**—RAI, 6005 at 0050 with news. (Pellicciari, CT) 7125 at 2301 in EE, 9645 at 2258 in II. (Williams, TX) 11765 at 0218 and 11800 at 0103 in II. (Miller, WA) 11800 at 0049 with ID in II, into EE at 0050. (Stanley, AZ) 21535 at 1330-1530 with live soccer coverage in II. (Rampulla, FL)

**JAPAN**—Radio Japan, 5960, via Canada, at 0300. (Pellicciari, CT) 6145 at 0806 in JJ/RR and 9685 in JJ at 0823. (Williams, TX)

9580 at 1945 in EE, 11615 at 2208 in JJ, 11840 at 0115 and 11910 in JJ at 0139. (Miller, WA)

**JORDAN**—Radio Jordan, 9560 at 2147 in AA. (Miller, WA) 11970 at 1700 in EE with ID, news. (Stanley, AZ)

**KAZAKHSTAN**—Voice of Russia world service, 7125 at 2330. (Jeffery, NY) Presumed, 15230 at 1125 with Mideast music and unidentified language. (Williams, TX)

Radio Almaty, via Ukraine, 9560 at 0630-0700 in EE with IS, IDs, frequencies, news, folk music, ID, address. (Paszkievicz, WI) Radio Almaty/Alma Ata, 9560 at 0559 with IS, presumed Kazakh program with ID, anthem, presumed news. Into EE at 0630 with "Radio Alma-Ata" ID. Tnx Paszkievicz. (Lamb, NY)

**KENYA**—Kenya Broadcasting Corp., 4935//6050 at 2050 in Swahili with African choral music,

sign-off announcement with ID, choral anthem and off at 2110. (Chambers, Dougherty—Mohawk Valley)

**KUWAIT**—Radio Kuwait, 13620 at 1251 in AA. (Williams, TX)

**LEBANON**—Voice of Hope, 9960 at 2000 with address for religious programs and ID at 2005. (Dougherty—Mohawk Valley)

**MALAYSIA**—Radio Malaysia, 6050 at 1523 in AA. (Miller, WA)

Radio Malaysia, Kajang, 9750 at 1000 in Indonesian with ID, pops. (Chambers—Mohawk Valley)

**MALAWI**—Malawi Broadcasting Corp., 3308.9 at 0259 with choral anthem, woman with news in EE, African guitar and choral music. (Chambers—Mohawk Valley)

**MALI**—RTV Maliene, 4835 at 2300 in FF. (Jeffery, NY)

**MAURITANIA**—ORTM, 4821.8 variable, 0027 to 0051 in AA with talk on phone, Koran. (Paszkievicz, WI)

**MEXICO**—Radio Educacion, 6185 at 0454 in SS. (Miller, WA)

Radio Mil, 6011, nominal 6010, in SS at 1316. (Williams, TX)

**MOLDOVA**—Voice of Russia relay, 11750 at 2319. (Williams, TX)

**MONACO**—Trans World Radio, 7115 at 0813 with organ music, EE ID, religious program. (Williams, TX)

**NETHERLANDS**—Radio Netherlands, 6020 at 0009. (Williams, TX) 0329. (Miller, WA)

**NETHERLANDS ANTILLES**—Radio Netherlands, Bonaire relay, 6020 at 1220 in SS. (Northrup, MO) 6165 at 0447 in SS. (Miller, WA) 9720 at 0826, 11730 at 2320 in SS. (Williams, TX)

**NEW ZEALAND**—Radio New Zealand International, 9700 at 0824 with comedy program. (Williams, TX) 9700 at 1214 and 15115 at 0047. (Miller, WA) 15115 at 0000, ID, news. (Stanley, AZ)

**NIGER**—La Voix du Sahel, 5019 at 0549 in FF with Koran, women's choir, talk, ID. (Lamb, NY)

**NIGERIA**—Radio Nigeria, Kaduna, 4770 at 2244 with music, ID, news, anthem and off at 2259. (Jeffery, NY)

**NORTH KOREA**—Radio Pyongyang, 11700 at 2300 with IS, ID, anthem, news. (Stanley, AZ)

**PAKISTAN**—Radio Pakistan, 11590 at 1800.

Radio Maya de Barillas, 3325 at 1137 in SS. (Williams, TX)

La Voz de Nahuala, 3360 in SS at 1139. (Williams, TX)

Radio Chortis, 3380 in SS at 1140 with polkas. (Williams, TX)

**HAWAII**—KWHR, 9930 at 0830 in EE, ID, into CC. Nutcracker Suite in background. Also at 1116. (Williams, TX)

WWVH, 10000 at 0833, female with time checks. (Williams, TX)

**HONDURAS**—La Voz Evangelica, 4820 at 0305 in SS with ID, fanfare, hymn. (Stanley, AZ) 0206 in SS. (Miller, WA)

**HUNGARY**—Radio Budapest 5965//9850 at 0346 with DX program. (Lamb, NY) 0127 on 9850. (Miller, WA)

**INDIA**—All India Radio, 9910 at 1518 in Hindi, 10330 at 1603 in Hindi. (Miller, WA) 11620 at 1950. (Pellicciari, CT)



(Miller, WA) (Probably in Urdu.—Ed.)

**PAPUA NEW GUINEA**—Radio East New Britain, 3385.1 at 1024 in Pidgin with light pops, island music, //Port Morseby, 4890. (Chambers—Mohawk Valley)  
Radio Madang, 3260 at 1031 in Pidgin with hymns, choir, piano, religious program, mentions of Madang. (Chambers—Mohawk Valley)

**PARAGUAY**—Radio Nacional, 9735 at 0005 in SS. (Hallenbeck, ME) 0134 in SS with music, long speech. (Stanley, AZ) 0649 with earlier-than-usual sign-on in SS with local folk music, anthem, IDs and morning show Antes del Sol. (Lamb, NY)

**PERU**—Radio Amauta, 4955 at 0249 in SS. (Jeffery, NY)

Radio Nacional, 6095 at 1020 in SS under Monitor Radio. (Williams, TX)

**PHILIPPINES**—Radio Veritas Asia, 9555 at 1354 in unidentified language. (Miller, WA)

VOA relay, 6110 at 1330 in special EE. (Northrup, MO) 9760 at 1414 with ID, Asia Report. (Lamb, NY)

**POLAND**—Polis Radio, 11815 at 1300 with "Polskie Radio Warszawa" ID, beginning of EE program. Heavy QRM from Spain via Costa Rica. (Chambers, Dougherty, Rocker—Mohawk Valley)

**PORTUGAL**—Radio Portugal, 9570 at 2217 in PP. (Miller, WA)

2342 with drama. 15200 at 1248, 17685 to Africa at 1302, 17745 at 1305. (Williams, TX)

**ROMANIA**—Radio Romania, 9570 at 2345 with soprano, presumed Romanian. (Williams, TX)

**RUSSIA**—Radio Netherlands relays: 9810-Irkutsk//7260 Petropavlovsk-Kamchatsky at 0930 sign-on with IS, news. (Rocker—Mohawk Valley)  
Magadan Radio, 9530 at 0314 in RR. (Miller, WA)

Radio Rossii, 7270 in RR at 0145. (Miller, WA)  
Golos Rossii, 9560 in RR at 2154. (Miller, WA)  
Voice of Russia, 7180 at 0030 and 9580 at 0200. (Stanley, AZ)

**RWANDA**—Deutsche Welle relay, 17800 at 1307 in GG. (Williams, TX)

**SAUDI ARABIA**—BSKSA, 9555 at 2254. (Williams, TX) 9555//9870 at 2000 in AA with the General Service. Also 11935 at 2000 in AA with Koran. (Pellicciari, CT)

**SENEGAL**—Radio Senegal, presumed, 7170 at 0803 in FF with world news, African music, many mentions of Dakar. (Lamb, NY)

**SEYCHELLES**—FEBA, 9810 at 1638 in unidentified language. (Miller, WA)

**SINGAPORE**—Radio Singapore, 6165 at 1528. (Miller, WA)

BBC relay, 7135 at 1212, 9530 at 1103, 11955 at 0837. (Williams, TX)

**SLOVAKIA**—Radio Slovakia International, 5930 at 0100 with news. (Pellicciari, CT) 0148 with announcements in FF, EE, Slovak. (Miller, WA)

**SOUTH AFRICA**—Channel Africa, 7290 at 0307, 11900 at 1502, both in African languages. (Miller, WA) 15240 at 1557 in EE. (Jeffery, NY)

**SOUTH KOREA**—Radio Korea International, 7205 at 0815 in KK. (Williams, TX) 11810 at 0104 in EE. (Miller, WA) 15575 at 2300 with ID in KK, into EE. (Stanley, AZ)

**SPAIN**—Radio Exterior Espana, 5970 at 1215 in SS, 9630 at 1300 in SS. (Northrup, MO) 6055 at 0006 in SS, 15110 at 1244 in SS, 17715 at 1305 in SS. (Williams, TX) 9540 at 0000. (Hallenbeck, ME, Stanley, AZ)

**SRI LANKA**—SLBC, 9720 at 1525 in EE. (Miller, WA)

**SURINAM**—Radio Apinte, 4991 at 0015 in local language with ID, talks, folk music. (Chambers—Mohawk Valley)

**SWEDEN**—Radio Sweden, 6065 at 0002 in Swedish. (Williams, TX) 7115 in Swedish at 0205. (Miller, WA)

**SWITZERLAND**—Swiss Radio International, 9905 at 0117. (Miller, WA) 11650 at 2323 in II and 13635 at 1126 in EE. (Williams, TX)

**TAHITI**—Radio Tahiti, 15168 at 0230 in FF with 1950s and modern pops. (Stanley, AZ)

**TAIWAN**—Voice of Free China, 5950, via WYFR, 0441 in CC. (Miller, WA) 9985 via WYFR at 2153 in GG, into EE at 2200. (Jeffery, NY)

**TANZANIA**—Radio Tanzania, 5050 at 2050 in Swahili with African choral music, talks, IDs, drums, choral anthem, sign-off announcement and off at 2102. (Chambers, d'Avignon, Dougherty—Mohawk Valley)  
7280 via South Africa at 1940 in Swahili, with African music, ID "Radio Tanzania, Dar Es Salaam," drums, presumed news. (Lamb, NY)

**THAILAND**—Radio Thailand, 11905 at 0030, ID 0036. Parallel to 9655 and 15370. (Stanley, AZ) 11905 at 0035. (Miller, WA)

**TOGO**—Radio Lome, 5047 at 1940 in FF with music, into EE with ID and Togo news 1945. (d'Avignon—Mohawk Valley)

**TUNISIA**—RTV Tunisienne, 12006 in AA at 2000. (Pellicciari, CT)

**TURKEY**—Voice of Turkey, 9445 in AA at 2300, ID 2301. (Stanley, AZ) 2342 in TT. (Miller, WA) 9445//9460 in TT at 2251. (Williams, TX)

**UNITED ARAB EMIRATES**—UAE Radio, Abu Dhabi, 9605 at 2339 with EE ballad. (Williams, TX) 9605//9770 (both new) at 2322 with press review, address. (Chambers, Dougherty, Rocker—Mohawk Valley)

**UNITED STATES**—Militia of Montana, 7435 at 0031 plugging video tapes on how to do first aid in the field, mentioned anti-UN rally to be held in Roanoke, VA, mention of Liberty News Service via satellite and Eagle Radio Network. (Hallenbeck, ME) (Is this a program via another station, a pirate, a clandestine broadcaster, or what?—Ed.)

Voice of America, via WHRI, 5745 at 0616 in FF with African music, ID, news. Off 0630. (Lamb, NY)

**VANUATU**—Radio Vanuatu, 3945 at 0858 in presumed Pidgin, with island music, ID, religious program, anthem and off at 1001. (Chambers—Mohawk Valley)

**VATICAN**—Vatican Radio, 6095 in FF at 1022. (Miller, WA) 7305 at 0244 in EE. (Stanley, AZ)

**VENEZUELA**—Ecos del Torbes, 4980 at 2324 in SS. (Jeffery, NY) 1004. (Williams, TX) 0215. (Pellicciari, CT)

Radio Rumbos, 9660 at 2335 in SS. (Williams, TX) 9659 at 0151 in SS. (Miller, WA)

**YUGOSLAVIA**—Radio Yugoslavia, 7115 at 0120 in EE. (Pellicciari, CT) 0016 to North America in Slavic language. (Williams, TX) 0430 in EE. (Miller, WA)

That's the story for this month. Raise your glass in a toast to the following good folks who did the work this month:

Joseph Rampulla, Miami Beach, FL; Mark Northrup, Gladstone, MO; Trevor Stanley, Flagstaff, AZ; Dave Jeffery, Niagara Falls, NY; Marie Lamb, Brewerton, NY; Steve Williams, Corpus Christi, TX; Sheryl Paszkiewicz, Manitowoc, WI; Steve Pellicciari, Norwalk, CT; Don Hollenbeck, Pittsfield, ME; Michael J. Miller, Issaquah, WA; and the Mohawk Valley DXpedition guys—Roger Chambers, Larry Cohen, Jacques d'Avignon, Chet Dougherty, Harry Riddell and Daryl Rocker (all via Marie Lamb). Thanks to each of you!

Until next month, good listening! ■

## QUALITY SCANNING KITS FROM CTP

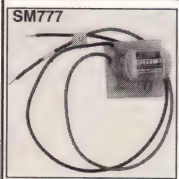


The **DS49** is a frequency inversion voice descrambler/scrambler and is guaranteed to descramble standard frequency inversion schemes used in new cordless telephones as well as some public service/industrial communication systems. It also descrambles variable split band frequency inversion schemes! The **DS49** descrambles all standard schemes using 3333, 3500, and 3700 Hz plus speech inversion using non-standard pilot tones! It is adjustable from 2.7 to 4.0 kHz. Only four quick solder connections to any receiver are needed and +12 VDC power source inside the radio is required. The **DS49** measures approx. 1.95" x 2.6", and fits easily into most mobile/base scanners!

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# Broadcast DXing

BY TIM KRIDEL

DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

## Oh, Woe: WOWO's Watts to Wane

It's official: Fort Wayne, Ind.'s WOWO-AM will have its nighttime power reduced from 50 kW to 9.8 kW, a cut of over 80 percent. Last year, the Federal Communications Commission approved a petition by Inner City Broadcasting Corp., which bought WOWO in November 1994, to power down the clear-channel station. The commission also gave Inner City the green light to start a 30-kW nighttime signal for its flagship station, New York City's WLIB-AM, currently restricted to a daytime-only power of 10 kW on 1190 kHz. WOWO's daytime power will remain at 50 kW. Changes are expected to take place later this year or early 1997.

WOWO also will employ a new directional nighttime pattern that will divert its signal away from the Northeast and WLIB. WOWO general manager Tony Richards estimated that nighttime coverage will be reduced from 28 states to nine. The result, ironically, may be that WOWO will be heard in parts of the U.S. and Canada in which it currently isn't audible—even at its reduced power. "When you bring in part of a (signal) pattern, it tends to squeeze out on the other side," Richards explained.

Although at press time a new coverage map still was being hashed out, Richards was confident that WOWO would be very much alive and well after the changes. "It's not the end of WOWO," he said. "The signal will not be cut 80 percent. The output power will be" cut by 80 percent, "but the signal doesn't come down at the same rate as the power does," he explained, emphasizing that "the coverage is being cut, but not by 80 percent."

And WOWO won't have to surrender its title as Indiana's most powerful radio station, according to Richards. Indianapolis' WIBC, at 50 kW days and 10 kW nights, bests WOWO by 200 watts at night, but since WIBC has a "much more limited pattern" than WOWO will, WOWO still will be the more powerful station in terms of coverage. WOWO will be "huge" to the north, Richards said. "I'm sure we'll still get into Canada and probably down into Georgia."

The changes in power and pattern probably won't occur until late 1996, at the earliest, because both WOWO and WLIB must erect new antenna towers and modify their facilities. WLIB can't power up until WOWO powers down, and the changes must occur simultaneously.



50-kW CFCW is licensed to Camrose, Alberta, and carries Oilers hockey from neighboring Edmonton. Their sister station is CKRA-FM. (Courtesy Trevor Fletcher, Edmonton)

Federated Media has purchased the assets of WOWO from Inner City, but at press time still was waiting to close on the license itself. It was unclear when exactly Federated would take over, either before or after the changes occur. The change in coverage won't result in a change in programming, Richards said.

Inner City purchased WOWO in order to eliminate it as the primary obstacle in expanding WLIB to 24 hours. Company officials told *The (Fort Wayne) News-Sentinel* in 1994 that WOWO would lose

only 268,000 listeners, while powering up WLIB at night would provide its black-ethnic programming to 9.7 million residents of the New York City and northern New Jersey area. They also argued that powering down WOWO to 9.8 kW would allow five other stations on or adjacent to 1190 kHz to expand their coverage.

Critics of the plan—foremost Peter George, who organized the WOWO Listeners Guild as a response—countered that the changes would "emasculate" WOWO and, worse, set a dangerous precedent for

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Lincoln, Neb.'s KZUM runs 1.5 kW. (Courtesy Jon Heckman, KBØRXF, of Lincoln)



## Seeking Permits to Construct New AM Stations

NC	Lancaster	1060 kHz	400 watts (synchr/WMAP)
SC	Rock Hill	870 kHz	400 watts (synchr/WGTL)

## Granted Permit to Construct a New AM Station

CO	Gunnison	1490 kHz	1 kW
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## Seeking Permits to Construct New FM Stations

AK	Kasilof	106.9 MHz	3 kW
AL	Harvest	88.1 MHz	1.5 kW
AL	Trinity	88.1 MHz	12 kW
AR	Bentonville	88.1 MHz	1 kW
AR	Earle	103.9 MHz	25 kW
AR	Fair Bluff	105.3 MHz	6 kW
AR	Ola	101.3 MHz	850 watts
AZ	Duncan	100.7 MHz	6 kW
CA	Essex	103.9 MHz	9.5 kW
CA	Livingston	89.1 MHz	250 watts
CA	Needles	107.1 MHz	50 kW
CA	Sonoma	91.3 MHz	6 kW
CO	Silverton	107.3 MHz	100 kW
FL	N. Miami Beach	88.7 MHz	100 watts
GA	Brunswick	90.7 MHz	1.5 kW
GA	Talking Rock	100.1 MHz	
IA	Parkersburg	98.9 MHz	6 kW
IA	Perry	91.7 MHz	30 kW
IL	Canton	101.1 MHz	6 kW
IN	Roann	101.9 MHz	6 kW
KS	El Dorado	88.1 MHz	617 watts
KY	Benton	89.7 MHz	3.7 kW
KY	Tompkinsville	102.9 MHz	
ME	Yarmouth	88.3 MHz	100 watts
MI	Iron Mountain	106.7 MHz	
MI	Negaunee	99.5 MHz	
MI	Saginaw	88.3 MHz	2 kW
MO	La Monte	97.1 MHz	
MO	Macon	99.9 MHz	6 kW
MS	Hattiesburg	89.3 MHz	1 kW
MS	Oxford	91.5 MHz	2 kW
MT	Billings	107.5 MHz	
MT	Missoula	89.9 MHz	1 kW
NC	Fair Bluff	105.3 MHz	25 kW
NH	Nashua	89.3 MHz	5 kW
NM	Clovis	91.1 MHz	1 kW
NM	Reserve	104.5 MHz	1.2 kW
NV	Pahrump	95.1 MHz	6 kW
NY	Rouses Point	88.7 MHz	13 kW
OH	Wauseon	96.9 MHz	3 kW
OK	Norman	89.3 MHz	4.5 kW
OK	Sulphur	89.3 MHz	1 kW
OR	Klamath Falls	104.7 MHz	12.5 kW
OR	Merrill	105.7 MHz	110 watts

SC	Anderson	107.3 MHz	100 kW
SD	Rapid City	92.3 MHz	
TX	Abilene	91.3 MHz	1 kW
TX	Electra	94.9 MHz	50 kW
TX	Gregory	104.5 MHz	6 kW
TX	Ingram	90.1 MHz	50 kW
VA	Exmore	106.1 MHz	25 kW
WA	South Bend	105.7 MHz	
WA	Sunnyside	88.1 MHz	250 watts
WI	De Forest	93.1 MHz	6 kW
WI	Neilsville	92.7 MHz	3.4 kW
WY	Sundance	101.1 MHz	25.2 kW

## Granted Permits to Construct New FM Stations

AK	Barrow	91.9 MHz	890 kW
AK	Cordova	100.9 MHz	1.2 kW
AK	Columbia	92.1 MHz	2.55 kW
FL	Homestead	88.1 MHz	162 watts
IN	Hagerstown	91.1 MHz	3 kW
NY	Old Forge	99.7 MHz	3.8 kW
PR	Culebra	89.3 MHz	30 kW
WA	Yakima	91.1 MHz	10 kW
WV	Petersburg	89.5 MHz	9 kW

## Canceled

KABH	Shawnee, OK	95.1 MHz	
KCLM	Newport, OR	92.7 MHz	12 kW
WAAT	Tiptonville, TN	101.3 MHz	25 kW

## Seeking Modified AM Facilities

KNCO	Grass Valley, Ca	810 kHz	Seeks increase to 25/10 kW.
KZTW	Fairview, OR	860 kHz	Seeks move to Troutdale, 540/5 kW.
WAEB	Allentown, PA	790 kHz	Seeks increase nights to 1.5 kW.
WHOD	Jackson, AL	1230 kHz	Seeks move to 1190 kHz, 10 kW/300 watts.
WKOX	Framingham, NH	1200 kHz	Seeks increase to 50 kW.
WLVN	Brantley, AL	1080 kHz	Seeks move to 1030 kHz, 5 kW/400.
WNGA	Nashville, GA	1600 kHz	Seeks move to 770 kHz, 5 kW/300 watts.
WOKV	Jacksonville, FL	690 kHz	Seeks increase nights to 50 kW.
WQDQ	Lebanon, TN	1600 kHz	Seeks move to Nashville, 249 watts nights.

## Modified AM Facilities

KEBE	Jacksonville, TX	1400 kHz	Increased to 1 kW.
WLIB	New York, NY	1190 kHz	Increased nights to 30 kW.
WOWO	Fort Wayne, IN	1190 kHz	Reduced nights to 9.8 kW.
WYLF	Penn Yan, NY	850 kHz	Added nights with 45.5 watts.

## Seeking Changed FM Frequencies

KJAB-FM	Mexico, MO	90.1 MHz	Seeks 88.3 MHz, 6 kW.
---------	------------	----------	-----------------------

other stations to purchase and power down competitors. George told *Radio World* that the FCC received more than 300 letters against the changes, while Richards puts the figure at around 100.

## Who's in Charge?

With radio stations changing hands as frequently as NFL franchises, it's easy to get the impression that transfer of ownership is simply a matter of paper work, as routine as signing over an automobile title.

Not so. Because AM and FM radio spectrum is limited, the FCC is concerned not only with who owns a broadcast outlet, but also whether that party has a regular, active role in station operations.

The head of a group of Midwest stations is finding out just how seriously the commission polices its ownership rules. A conviction on several counts of sodomy and deviate sexual assault of Michael Rice, president, director, treasurer and majority shareholder of Contemporary Media Inc., Contemporary Broadcasting Inc. and Lake

Broadcasting Inc., has put the licenses of seven stations in mid-Missouri and Terre Haute, Ind., in jeopardy. WBOW, WBFX, WZZQ, KFMZ, KAAM, KBMX and KFXE face the possibility of having their licenses revoked because Rice's conviction questions the character of their owner and his fitness to control the stations.

The FCC apparently is more concerned about the response of Rice's companies to his conviction. In an attempt to distance the stations from Rice, the companies may have distanced themselves too far. Shortly



KKGB	Sulphur, LA	100.9 MHz	Seeks 101.3 MHz, 25 kW.
KWRL	La Grande, OR	99.9 MHz	Seeks 99.7 MHz.
WUNS	Lewisburg, PA	96.3 MHz	Seeks 103.7 MHz, 1.4 kW.
WZTY	Bear Lake, MI	92.1 MHz	Seeks 92.7 MHz.

## Changed FM Facility

KRSD Sioux Falls, SD 88.1 MHz Operating as satellite system.

## New AM Call Letters Issued

WAOP Kendall, FL

## Pending AM Call Letter Changes

New	Old	
KSOU	KVDB	Sioux Center, IA
WDWZ	WRLD	West Point, GA
WINH	WLNT	Winchester, KY
WNSI	WJXL	Jacksonville, AL
WQNT	WUJM	Charleston, SC

## Changed AM Call Letters

New	Was	
KASH	KKSD	Anchorage, AK
KEZQ	KURB	Little Rock, AR
KDES	KESQ	Palm Springs, CA
KDFX	KGBS	Dallas, TX
KDJW	KLCJ	Amarillo, TX
KFLD	KORD	Pasco, WA
KKPZ	KUPL	Portland, OR
KMJC	KWSD	Mount Shasta, CA
KNOS	KRLI	Albuquerque, NM
KZSJ	KSJI	San Martin, CA
WAFZ	WZOR	Immokalee, FL
WFNZ	WRFX	Charlotte, NC
WGTO	WLLJ	Cassopolis, MI
WHIM	WKRI	West Warwick, RI
WKWN	WADX	Trenton, GA
WLUX	WLIX	Islip, NY
WOHL	WBBD	Wheeling, WV
WPHZ	WHIM	Providence, RI
WRKK	WMRE	Hughesville, PA
WTKT	WBBE	Georgetown, KY

## New FM Call Letters Issued

KANX	Pine Bluff, AR
KAOA	New Orleans, LA
KCAJ	Roseau, MN
KEUG	Cottage Grove, OR
KIID	Alamogordo, NM
KJGM	Fredonia, KS
KLKN	Lincoln, NE
KSTV-FM	Dublin, TX
KWWF	W. Yellowstone, MT
KZGO	Glenwood Springs, CO
WAIL	Pinckneyville, MI

## Changed FM Call Letters

New	Was	
KAEP	KEZE-FM	Spokane, WA
KBVI	KBKS	Boulder, CO
KCIN	KRPN-FM	Tacoma, WA
KEZQ-FM	KEZQ	Sheridan, AR
KFFG	KHQT	Los Altos, CA
KFMA	KEKO	Green Valley, AZ
KHTS	KECR-FM	El Cajon, CA
KJMZ	KXTZ	Henderson, NV
KLWV	KBNN	Julian, CA
KLXN	KOKN	Hobbs, NM
KMBY-FM	KKLF	Gonzales, CA
KMJC-FM	KEDY	Mt. Shasta, CA
KSII	KAMZ	El Paso, TX
KSYC-FM	KYRE	Yreka, CA
KURB	KURB-FM	Little Rock, AR
KWFR	KKLK	San Angelo, TX
KWRQ	KJJJ	Clifton, AZ
KXDA	KOLW	Kennett, MO
WAMR-FM	WQBA-FM	Miami, FL
WBHR	WIBM	Jackson, MI
WCPR-FM	WUSD	Wiggins, MS
WCXR	WUNS	Lewisburg, PA
WDRR	WRWX	San Carlos Park, FL
WEBR	WGAY	Washington, DC
WEJE	WKQM	Churubusco, IN
WFRR	WAIL	Walton, IN
WHSL-FM	WFXF	High Point, NC
WIOZ-FM	WAHP	Southern Pines, NC
WKPS	WANZ	State College, PA
WKQB	WIOZ-FM	Southern Pines, NC
WKSZ	WJLW	De Pere, WI
WKTS	WDUC	Marathon, FL
WLTO	WLRO	Nicholasville, KY
WNCE-FM	WCTX	Palmyra, PA
WNST	WJYQ	Moncks Corner, SC
WPXX	WQVA	Semora, NC
WQBX	WFYC-FM	Alma, MI
WRAK-FM	WFRY	Salladasburg, PA
WRFX	WRFX-FX	Kannapolis, NC
WRVF	WLQR	Toldeo, OH
WSJI	WEEE	Cherry Hill, NJ
WVIB	WMJU	Mt. Kisco, NY
WVIL	WAOG	Virginia, IL
WVRT	WWWD	Jersey Shore, PA
WVYB	WMJV-FM	Patterson, NY
WWBX	WYOU-FM	Bangor, ME
WWHC	WXIE	Oakland, MD
WXDX	WWKS	Beaver Falls, PA
WXQW	WDJU	Meridianville, AL
WXZZ	WTKT-FM	Georgetown, KY
WYTZ	WCSE	Bridgman, MI
WZTY	WAFU	Hartford, MI

after Rice was first charged in 1991, Contemporary/Lake officials stated that following his hospitalization in April 1991, Rice "has had absolutely no managerial, policy or consultative role in the affairs" of the three companies; "in other words,.... Mr. Rice is being completely insulated and excluded from any involvement in the managerial, policy and day-to-day decisions involving any of the four licensed stations and three construction permits held by" the companies. If that statement is true, Rice's absence would constitute a violation of Sec-

tion 310(d) of the Communications Act, which prohibits unauthorized transfer of control.

If that's not true—if Contemporary/Lake attempted to mislead the FCC into believing that Rice no longer played an active role when he in fact still did—then the commission could revoke the licenses on the grounds the ownership had displayed a lack of candor and honesty. That's a critical point in this case, given the amount of weight the FCC places on the trustworthiness of owners and licensees. In

fact, the commission has demonstrated through its past rulings that it's more concerned with whether or not a misrepresentation has occurred than with what was misrepresented.

The FCC cited three letters written in 1993 and 1994 that showed Rice continuing to have an active role, even though Contemporary/Lake officials maintained that he had ceased to in 1991. The FCC responded that "these items raise a substantial and material question as to whether Contemporary/Lake has been completely



# WABC MUSICRADIO 77 SURVEY

## SUPER SINGLES

TW	LW	WOS
1. SEASONS IN THE SUN/Terry Jacks, Bell	1	7
2. DARK LADY/Cher, MCA	2	6
3. SUNSHINE ON MY SHOULDER/ John Denver, RCA	6	4
4. BOOGIE DOWN/Eddie Kendricks, Tamla	3	9
5. MOCKINGBIRD/Carly Simon & James Taylor, Elektra	5	8
6. HOOKED ON A FEELING/Blue Swede, Capitol	12	4
7. ROCK ON/David Essex, Columbia	8	7
8. TSOP/MFSB, Philadelphia Int.	13	4
9. ERES TU/Mocedades, Tara	10	6
10. JET/Paul McCartney & Wings, Apple	9	7
11. SPIDERS AND SNAKES/Jim Stafford, MGM	7	10
12. THE WAY WE WERE/Barbra Streisand, Columbia	4	12
13. BENNIE & THE JETS/Elton John, MCA	21	2
14. BEST THING THAT EVER HAPPENED TO ME/ Gladys Knight & Pips, Buddah	16	2

## SINGLES

LOOKING FOR A LOVE/Bobby Womack, United Artists  
 COME & GET YOUR LOVE/Redbone, Epic  
 OH MY MY/Ringo Starr, Apple  
 THE LORD'S PRAYER/Sister Janet Mead, A&M  
 I'LL HAVE TO SAY I LOVE YOU IN A SONG/Jim Croce, ABC  
 MY MISTAKE WAS TO LOVE YOU/Diana Ross & Marvin Gaye,  
 Motown  
 KEEP ON SINGING/Helen Reddy, Capitol

March 25, 1974



**DAN INGRAM**  
 2:00 pm-6:00 pm  
 Monday-Saturday

## THE MUSIC'S ON US!

If you can hum a couple of these tunes, you also probably can remember when the AM band was filled with music. John Petro, KB2GJU, unearthed this 1974 play list while moving to South Belmar, N.J.

truthful with the commission on this issue. Therefore, an appropriate issue will be designated as to whether Contemporary/Lake has been truthful in its representations to the commission."

It appears that Contemporary/Lake has painted itself into a corner—either Rice unlawfully transferred control or company officials misrepresented the situation. Both are grounds for revocation. Stay tuned.

## Community Service

In amateur radio, there's a saying: "If you can't hear them, you can't work them." The reverse is true for commercial broadcasters—if your listeners can't hear you, you can't serve them. A Cape Charles, Va., station is doing something about its signal woes. Plagued by spotty coverage of the Norfolk-Portsmouth market and havoc wreaked on its signal by its location in the southern tip of Chesapeake Bay, WROX-FM has started a translator on 106.1 MHz to supplement its primary frequency of 96.1 MHz. The set-up, which debuted in October 1995, includes a 250-watt transmitter and a dipole perched some 102 meters above the studios in downtown Norfolk, reports Edward Bunch, of Portsmouth, Va.

While WROX is enjoying better coverage, the owner of WBRW would be happy just to have a place to put up an antenna. Dan Lohse, a radio engineer and entrepreneur, purchased the Bridgewater, N.J., station in 1993. Lohse had planned to erect a single antenna tower at the existing site near the Bridgewater-Somerville border, replacing the four sticks WBRW used until it went dark in 1990. Those plans fell through when the station's previous owners, bankrupt Somerset Valley Broadcasting Co., changed their mind, according to an article in *The (Newark, N.J.) Sunday Star-Ledger*, sent to us by Chris Huber of Long Valley, N.J.

Now, Lohse is asking the Somerville Borough Council for its help in putting the community back on the AM dial. Lohse wants to erect a 135-foot tower on a 3-acre, town-owned tract near the intersection of South Bridge Street and Route 206. Although at press time no deal had been struck, Lohse remained cautiously optimistic. He also envisions a storefront studio in the downtown, putting the station at the heart of the community it once served—and, if he has his way, would serve again.

"WBRW did a fantastic job for many years," Lohse told *The Star-Ledger*. "It still has a high recognition." Programming for the 500-watt, daytime-only station would include news, talk and music.

## Where to Start

Last month, we stressed the importance of writing reception reports that are as detailed and accurate as possible. But



unless you're proficient with shorthand or have an excellent memory, it's easy to become overwhelmed by names and times when taking notes to write a report. Fortunately, you probably already have an aid in your shack—a tape recorder.

Recording while DXing can help ID a station that listening alone might not allow, especially if the signal is fading in and out or is buried under other signals. But not only can repeated listenings yield enough information to ID a station. They also can provide calls, announcer names, ads and other information needed to write an accurate reception report.

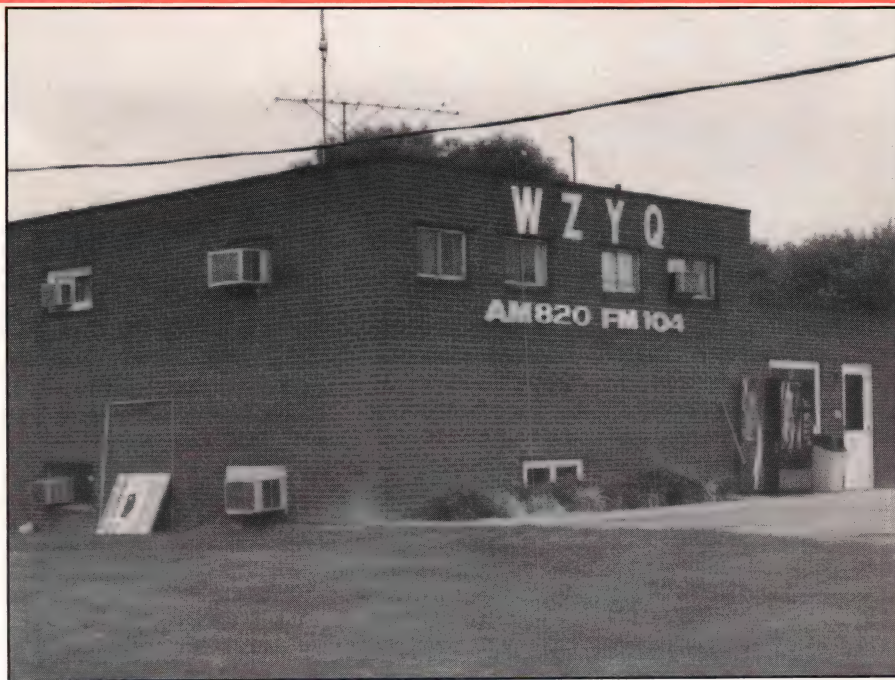
One problem with this approach, however, is that you'll be listening to something in the past. For example, suppose you've been DXing and recording late into the night, but you won't be reviewing the tape and writing your report until the next morning. Because you won't be listening to the station in "real time," you have to compensate for the difference—that is, if you want to note that an ad was run at a certain time, how can you pinpoint that time and the duration of the ad unless the announcer happens to do a time check just before and after the ad?

Here's where using a stereo recorder comes into play. With a mono recorder, you would simply run a cable from the headphone jack of your radio to the microphone input of your tape recorder, then plug your headphones into the headphone jack on the tape recorder. With a stereo recorder, you can hook the radio up to one of the recorder's input jacks, then run audio from a second shortwave radio tuned to one of WWV's frequencies into the other input jack. This trick allows you to compile an accurate reception report because when you're reviewing the tape, you'll have WWV keeping time for you.

The obvious problem is that you'll have the added "interference" from WWV while you're trying to mine the recording for information. Fortunately, there are two ways around that. First, most stereo cassette decks allow the user to control separately the gain or volume of each input; after some practice you'll be able to determine how loud you want WWV to be on the tape. Another solution is simply to use stereo headphones when listening to the tape. That way, if your cassette deck has separate output volume controls for left and right, you can turn down the volume on the side with WWV; if it doesn't, put your hand over the appropriate earpiece when you want to concentrate on the station and uncover it when you want to use WWV to mark time.

## Thanks

News clippings, station and shack photos, bumper stickers and QSLs always are welcome, as are questions and comments.



The studios of Frederick, Md.'s WZYQ. (Courtesy James H. Young, Springfield, Va.)

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CIRCLE 11 ON READER SERVICE CARD



### What's Next, Robo-CBer?

**R**ecently, one of my correspondents and fellow Channel 9 monitors alerted me to something really new in CB—a robot CB station. The gizmo in question is the Wizard Work Zone Alert and Information Radio. The Wizard allows people in a highway work zone to record a warning message to be automatically broadcast when needed on a pair of CB channels.

According to the Wizard field operation manual, "The Wizard is designed to provide advanced warning of impending traffic slowdowns to give heavy trucks necessary time to stop...The Wizard scans for a break in activity on Channels 9 and 19 (or other CB channels), selects the proper interval for sending and broadcasts when clear. Care is taken not to interfere with normal CB communications between vehicles."

What makes the Wizard unusual is that, unlike some systems that simply broadcast

at predetermined intervals regardless of what is happening on the channel, the Wizard samples the channel to make sure it is clear (that is, the squelch on the Wizard's built-in receiver is not broken) and transmits only when it is clear. After 20 samples or so on the first channel, it switches to a second channel, samples there, and transmits when clear.

Message length, which can be pre-recorded or recorded on the spot, can be up to 20 seconds, but most average seven to 10 seconds. The interval of repeating the message can be adjusted to 20, 40 or 80 seconds. Estimated range of the Wizard, with its supplied small magnetic mount antenna, is two to four miles. The Wizard operates off 110 volts AC, 12 volts from a vehicle, or emergency internal battery power.

It sounds like an interesting concept. For more information about the Wizard, contact David C. Johnson, The Associates

Group, 127 Post Road East, Westport, CT 06880.

### Conquering Noise

If you've ever found yourself with locally generated noise that you couldn't get rid of no matter how hard you tried, and it was driving you nuts, hope may be in sight. The ANC-4 Antenna Noise Canceller from JPS Communications is designed to reduce locally generated noise such as from power lines, computers and TVs before it gets into your receiver. And it works—in some cases, extremely well. The downside is that the ANC-4 is not pushbutton easy. You have to learn how to use it through diligent practice, and, even then, it may not solve the noise problem at your location.

The ANC-4 measures just 5.25 by 6.5 by 1.75 inches. On the front panel are pushbuttons for power, phase range and

## THE WIZARD®



### Work Zone Alert and Information Radio



#### Wizard Field Operation Procedures

A guide for settings and message selection under varying operating conditions.

Simplified Instructions are located on placard on inside front

◀The Wizard has a utilitarian look about it, and a case designed to survive a work zone.

Under the right circumstances, the ANC-4 can do an impressive job of reducing locally generated noise, but it's not a cure-all.  
▼





# WINNIE RIVER MODULATORS 2-WRM-003

STATION	DATE	GMT	S	R	QRM	QRN	QSB	FREQ.
9-WRM-132 TREVOR	3/30/94	P.M. 12:30						27.345- 27.405
QSL #	MODE	ANT	POWER	BASE	MOB	PSE		
	LSB/USB	Shoalce Speare	36 AM 75SSB	COBCE 342	SUPER STAR	QSL	X	

## RUNAWAY

# KIE6096

MONITOR 52.5

**Bruce Stevens**

26500 Westfield  
Redford, Mich. 48239  
US4



26W7013

RS 1415

These QSLs are courtesy of Canada's Cornbinder.

frequency range, plus knobs for adjusting noise phase and noise gain. On the back panel, you'll find a female RCA connector for the noise antenna (there is an additional connector for the noise antenna in a socket on top of the ANC-4), a grounding attachment, PL-259 connectors for the main antenna and receiver, and a plug for a 12-volt power supply. It is housed in a thick metal case, and it comes with a well-written technical manual.

The ANC-4 connects between your CB and the antenna. It runs off a 12-volt power supply and uses a short-wire "noise" antenna connected to the back of the ANC-4 or, alternatively, a short whip antenna screwed into the top of the unit, to detect the local noise in your area. Unfortunately, there is no way to know from the start which noise

antenna is going to work better—it's a matter of trial and error.

Once everything is hooked up, it's a matter of adjusting the noise gain and noise phase controls to blank out the noise. Although the manual does a good job of spelling out the procedure, it takes some practice and demands patience to get good results. And if at first you don't succeed, you have to try a different noise antenna (either the wire or the telescoping vertical, depending on which one you started with) and start the process all over again.

How well the ANC-4 works depends very much on the kind of noise that is troubling you. At El Rancho Elliott in upstate New York, the ANC-4 had some small effect in reducing a "fried eggs" noise that was appearing on 11 meters, but the over-

## King of the Hill

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CIRCLE 68 ON READER SERVICE CARD

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all effect didn't seem worth the trouble. In fact, the noise blander and automatic noise limiter on my Cobra 2010 did a far better job of dealing with this particular kind of noise—I just pressed the buttons, and the noise seemed to melt away.

But on a different kind of noise, the ANC-4 produced far different results. An acquaintance whose listening post is in an electrically noisy location in Cleveland, found that through careful trial and error, the ANC-4 could clobber local noise sometimes by more than 40dB—enough so that he was able to copy signals that otherwise would have been wiped out.

The bottom line: The results you see with the ANC-4 will very much depend on the kind of noise at your location. In the right situation, the ANC-4 can be a powerful and effective tool.

Unfortunately, there is no way to know if the ANC-4 will solve your local noise problem without trying it, and the price tag is fairly hefty: about \$180. As a result, if you're trying to deal with a local noise problem, and want to give the ANC-4 a shot, try to purchase it from a dealer that will allow you to return it within a reasonable length of time if it doesn't meet your needs.

## Roger Beeps

A few issues ago, I asked whether anyone knew of any legitimate uses of roger beeps and echo chambers. A number of people wrote, but not one of them is a fan of either.

Raymond Ambsdorf from Washington state said roger beeps and echo chambers

are attention-getters, sort of like a peacock's tail. He added that a very distinctive roger beep is more like a dog—marking its territory. Raymond has an impressive station, with a Cobra 2000 and a Silver "K" Eagle. He plans to put up a pair of beams in the near future. Smart move, Raymond: You will really enjoy the increased performance on both receive and transmit.

Robert Fitz wrote from Arizona: "Echo boxes seem ridiculous to me, and I have never seen any functional reason for them. But I think to understand them, you can't view it from the mechanical 'hardware' perspective. It has been viewed from a psychological perspective. For some reason, some people feel more comfortable talking on the air if they know that their voice is unrecognizable. Maybe they have low self-esteem or are paranoid."

"Frontier" sent a note from Oklahoma on his own custom stationery, including a really neat cartoon of a frontiersman, and said some nice things about the column. He also said that he "really sees no reason for echo mikes" and other noise toys.

Terry Jones, SSB-106V, checked in from South Dakota with a long letter and the following: "Please include (with echo boxes and roger beeps) birdies, whistles, Tarzans, pingers and other idiotic gimmicks. I am in no way an advocate of government regulation, but it is my opinion that these things should be outlawed and banned from the market. They allow people to impose their crackpot garbage on people who do not want to hear it. I also hold equally in contempt the "local" base station creeps who turn their power mikes up to obnoxious." He adds, "I am an over-the-road truck driver, and I am ashamed of some of the jerks we have on the highways and byways with CB radios."

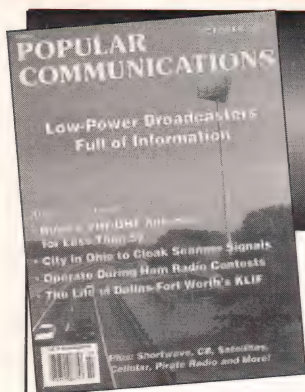
I mentioned to a friend that I found it just a little curious that not one of the CBers who had written to me about roger beeps, echo chambers and other noise toys had anything good to say about them. He came up with a simple explanation: "The folks who think that kind of equipment is really neat aren't the kind of people who would read your column." Oh.

## Closing

Finally, Cornbinder wrote from Alberta, Canada, enclosing a couple of QSL cards and reminding everyone that garage sales are great places to scoop up bargains on older CBs. It seems he just acquired a 23-channel Beltek base station that works great for \$10. Nice going.

Well, once again the readers of CB Scene have "done me proud." Thanks to all for taking the time to write. Perhaps someday we'll meet on the air.

Until next time, keep those cards and letters—and shack photos—coming to me here at POP'COMM.



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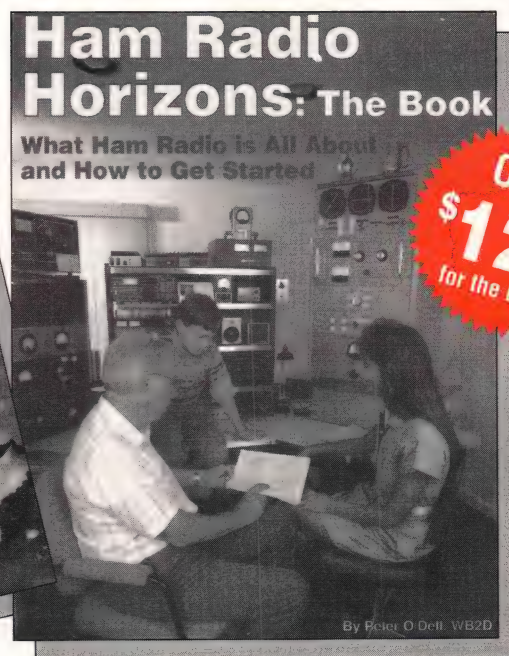
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- How ham radio can help your career
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This informative book and video will give you all the support you need to introduce prospective hams to the wonderful ways they can enjoy amateur radio! These products give first-hand tips from the leaders in the hobby. Future hams will see how we talk to the space shuttle and hear about some of ham radio's famous celebrities.

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# Product Parade

REVIEW OF NEW, INTERESTING AND USEFUL PRODUCTS

## New Cordless Phone Has Caller ID

One disadvantage of having a cordless phone and paying for Caller ID service is when you answer the phone remotely, you need to scurry to the Caller ID box to see who's calling! Well, that doesn't need to happen anymore.



Panasonic's new 46/49-MHz cordless phones offer Caller ID at the handset, without the need to scramble for the Caller ID box.

Panasonic brings the benefits of Caller ID to cordless phones with two new models, KX-T4108 and KX-T4168. These 46-/49-MHz offer only 10 channels (why weren't the 15 new frequencies added?) and boast large LCDs in the handset for displaying the name and number of callers.

In addition to showing the caller's number, both phones can display the caller's name, when the service is available. Names are indicated on the large LCD as they are listed with the phone company, so there is no need to guess who's on the line! And, as a result of a recent FCC ruling, even the numbers of long-distance callers now can be displayed, a big leap over earlier "out of area" messages.

The KX-T4108 and KX-T4168 also can store numbers and, where available, names of the last 30 callers in memory. Users can scroll through this list and dial any of the numbers at the touch of a button. This is useful for returning calls!

The Panasonic phones offer Sound Charger Plus technology to help filter out background noise for clear reception.

Both models have a long-lasting battery that will hold a charge for 14 days in stand-by mode. A quick-charging battery system in the base cuts charging time nearly in half over conventional cordless phones.

Other features include up to 30 speed dial locations, automatic redial and auto se-

curity, which uses any of 65,000 security codes to virtually eliminate the chance of another cordless phone from receiving your calls.

The step-up KX-T4168 adds a second dialing pad on the base, a built-in speakerphone, a hold button, two-way paging and an intercom between the base and the handset.

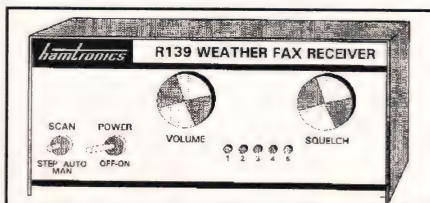
Both phones come in matte black and aren't too bad looking either! The compact handsets are designed to hold, and their sturdy rubber antennas are designed to resist breakage.

The KX-T4108 has a suggested retail price of \$140 and the KX-T4168 has a suggested price of \$160.

Panasonic telephone products are marketed in the United States by Matsushita Consumer Electronics Co., One Panasonic Way, Secaucus, NJ 07094.

## Hamtronics Offers WeatherSat Receiver

If you are looking for an inexpensive, but very effective wideband FM receiver module for 137-MHz weather fax reception, the new R139 receiver from Hamtronics may be the answer.



Hamtronics' R139 Weather Fax Receiver lets you receive weather satellite transmissions.

Because a wide IF bandwidth is required in a receiver for good quality reception, most conventional receivers and scanners are not suitable without modification. Some simply take an off-the-shelf scanner and short out the IF filter, but that has adverse consequences.

Hamtronics is known for its narrowband FM receiver and transmitter modules for hams who build their own repeaters and voice and data links. Over the years, the firm has made special versions of its receivers available with wideband IF filters and detectors optimized for NOAA APT and Russian meteor weather satellites.

The R139 is a new, improved, third-generation receiver designed from the ground up for WeSat reception. It combines the circuitry of the previous R138/AS138 modules in one unit with a cabinet and power supply and it incorporates suggestions made by customers.

The R139 receiver is crystal-controlled with five channel oscillators to cover all five of the popular U.S. and Russian satellite frequencies. All crystals are supplied with the unit. This apparently not only cuts the cost of the unit, but also makes it much easier for the user to build and maintain the receiver. An extensive instruction manual is provided, too.

The R139 not only has manual controls to select the channel, but also has a scan circuit built in to look for an active satellite overhead. This allows you to be away from the shack and still monitor the various weather satellites. If the R139 detects a satellite signal, the scanner stops on that channel and turns on a tape recorder control output. This can be used to activate a tape recorder, allowing you to play back the tape into your demodulator unit whenever you have time to reproduce the satellite images on your computer. LEDs on the front panel indicate which satellite is received.

The R139 receiver has good sensitivity: typically 0.2 microvolts. The receiver has adjustable audio output to drive a speaker and a WeSat demodulator. A squelch circuit mutes the audio when no satellite is in range. The R139 can be used with any popular tone demodulator and software.

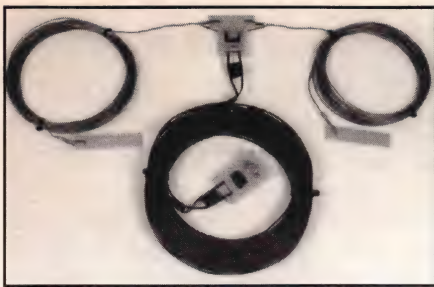
The kit price is \$159 in module form, and should prove simple to assemble for those with previous experience building kits. However, a signal generator is required for alignment. It also is available in kit form with an aluminum cabinet and 12-volt DC adapter for \$189. And for those who would rather not build the R139, it does come fully assembled, wired and tested in a cabinet with power adapter for \$239.

For more information, write to: Hamtronics, 65-F Moul Road, Hilton, NY 14468-9535, call (716) 392-9430, or fax (716) 392-9420. A data sheet on the R139 receiver is available.

## MFJ Has A Popular Antenna For Hams

At a price of \$29.95, the MFJ-1778 is





MFJ's G5RV wire antenna is popular among hams.

a very popular wire antenna for hams.

The G5RV antenna is an efficient all-band antenna that's 102 feet long, shorter than a full-size 80-meter dipole. You can use the G5RV wire antenna as an inverted-V or sloper, and it's compact. With an antenna tuner, the antenna can be used on all bands, 80 through 10 meters, and even 160 meters as a Marconi with a tuner and ground.

The G5RV antenna consists of 102 feet of heavy-duty stranded copper wire (seven strands of 22-gauge wire that's equivalent to 14 gauge) and 32 feet, 6 inches of high-quality, low-loss 450-ohm ladderline with more than 50 percent air dielectric.

The ladderline is terminated on both ends with custom fiberglass insulator/strain reliefs and an SO-239 coaxial connector is mounted on feedpoint end for easy connection to a coaxial feedline.

All insulators are custom-made from tough fire-retardant fiberglass and all connections are hand-soldered at the factory for long-lasting service. Just add some rope and coax, and you're up and running.

The MFJ-1778 G5RV wire antenna comes with MFJ's one-year unconditional guarantee. For more information, contact any MFJ dealer or MFJ Enterprises Inc., P.O. Box 494, Mississippi State, MS 39762, call (601) 323-5869, fax (601) 323-6551, or order (800) 647-1800.

### A Cub In Your Pocket Can Capture Frequencies

Optoelectronics Inc. has come out with a new frequency counter, the Cub, a pocket-size counter that improves on the popular low-cost model 3300 minicounter.

Features added to the Cub include: digital filter that reduces false counts; Auto Capture acts like an intelligent auto hold button; 10-hour battery life; eight selectable gate times; high-speed .0001 second

gate; and nine-digit LCD display.

The LCD display on the Cub is nice because it offers better visibility than LED displays, which are hard to read in direct sunlight. In addition, LED displays have a tendency to wear out the battery sooner.

The Cub offers 1 MHz to 250 MHz direct count capability for high resolution and operates over a frequency range of 1 MHz to 2.8 GHz. The Cub has maximized sensitivity for picking up radio transmissions and has a 10-MHz timebase and selectable gate times.

The Cub's capture mode allows the user to hold the frequency in the display without being overridden by other RF—perfect if you don't have a scratchpad handy!

If you are interested in using the Cub for test and measurement applications, Optoelectronics' P30 counter/oscilloscope probe allows direct connection to circuitry test points.

Various optional filters and antennas are available for the Cub, too.

The Cub is priced at \$149 and can be ordered direct from its manufacturer: Optoelectronics Inc., 5821 NE 14th Ave., Fort Lauderdale, FL 33334; toll-free ordering: (800) 327-5912; information: (305) 771-2050; fax: (305) 771-2052.

## ICOM™ IC-R9000 Slave Receiver(s) Frequency Hand-Off

The DELTACOMM™ I-9000 (1-2000 MHz) communication manager and your MS-DOS computer gives you a custom interface integrated with optimized software that will not just control but will maximize the potential of your R9000. Here are a few (there are many more) examples of the advanced features DELTACOMM™ I-9000 has to offer.

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DELTACOMM™ I-9000 communication manager comes complete with Delta Research custom (CI-V) communication interface, UL listed power supply, manual and receiver interface cable for \$499.00 + \$10.00 (U.S.) or \$30.00 (foreign) S&H. For additional information on DELTACOMM™ communication managers for ICOM™ R7000, R7100, R71A, R72 and IC735, contact us. \*Performance is proportional to video card, type of computer (286 or faster) and receiver squelch detection method.

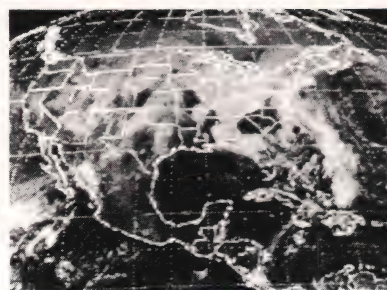


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## Get A New Image

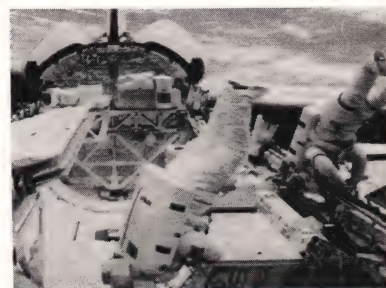


### PC HF Fax Plus \$129

PC HF Fax Plus is a simple, yet comprehensive HF system that receives Fax, RTTY, CW, and AMTOR on an IBM PC or compatible. It includes an FSK demodulator, advanced signal processing software, tutorial audio cassette, and complete reference manual. Just plug the demodulator into a serial port, install the software and get text and vivid images on your PC.

### PC SSTV \$149.95

PC Slow Scan Television is a complete system for sending and receiving full color amateur SSTV. The package includes an SSTV FSK modem, SSTV software, image capture utilities and reference manual. All popular formats are supported including Robot, Scottie, Martin and AVT. The system requires a 286, 386 or faster PC with VGA or super VGA display.



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# Pirates Den

BY EDWARD TEACH

## FOCUS ON FREE RADIO BROADCASTING

### Pirate Activity Picking Up

**T**ilt! Pirate activity has been way up lately, and it is reflected through this month's load of reports. I'll squeeze in as many as I can.

KTLA, 6955 LSB at 0327, with a mix of oldies and mentioning Rhode Island address. (Pat Murphy, VA)

WRV, 6955 USB at 0327 (same time as above), with folk-sounding music, "an unplugged weekend on WRV, the station nobody wants to catch," and talk about deaths from AIDS. Also on a different occasion at 0429. (Murphy)

WJFK, 6955 at 2230, drifting up to 2243 close, "Abraham, Martin and John" and other Kennedy-connected things. (Robert Haas, PA) Heard at 2235. (Myers)

WPN (World Parody Network) on 6955 LSB at 1936, with comedy selections. Box 605, Huntsville, AL 35804. (Haas) 6960 LSB to 1701 close. (Murphy) 1703 sign-off. Another day at 1806 on 6985 USB (Haas) 6956 LSB to 0033 with *Monty Python* theme. (Isaac Kelly, TX))

Modern Music Radio, 6955 at 2010, with rock, Providence, R.I., mail drop. (Haas)

KMCR, 6955 at 0026 sign-on, "Animal" hosting; pop music, CW IDs, QSL via P.O. Box 109, Blue Ridge Summit, PA 17214. (Ed Kusalik, Alberta, Canada)

Barnyard Radio, 6955 USB at 0115 to 0124 off, with "Captain Cowpatty," parody of *Achy-Breaky Heart*. (Kelly) To 2345 close, "you're listening to the Radio Barnyard," cow sound effects. (Murphy)

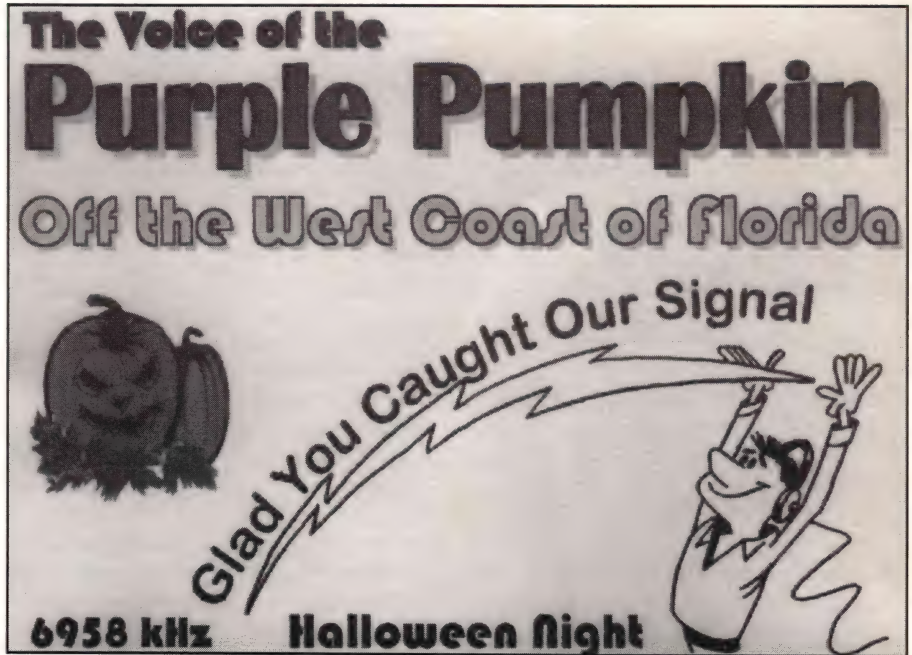
Black Rider Radio, 6955 to 0155 close, with sound effects, music from David Berne, others. (Kelly)

Free Hope Experience, 6955 USB at 0449, with parodies, music, PSAs. (Michael Langer, IL) To 0623 with rock, repeated IDs "this is Free Hope Experience—Foxtrot Hotel X-ray." Another date to 0457 close, saying it reports via the *Pirate Pages* or A\*C\*E. (Murphy)

KMBS Shortwave, 6955 at 1850, with music, maybe mentions of Peru and Elkhart, Ind., plug for A\*C\*E. (Chris Myers, IN)

KOLD, 6955 at 0007, with mention of Massachusetts and old tunes to 0022 off. (Myers, IN)

Radio USA, 6955 at 2230, with He-Man skit, "...lower the anchor, but this is a cheap radio show and we don't have the sound effects for that." (Dick Pearce, VT) To 1402 close, with "Mr. Blue Sky" and *The Adventures of P Man*. (Murphy)



*The Voice of the Purple Pumpkin is a Halloween pirate tradition, QSLing last year's broadcast with this nice multicolor card.*

Radio Titanic International, 6955 USB at 2005 via NARPS, "Capt. Smith calling you from the wreck of the Titanic." Apparently a 5-year-old show. (Pearce)

KNBS, 6955 LSB at 2040, "smoking lamp is lit," and "broadcasting from Kenwood, Okla., and haven't found an Icom yet." "KNBS, the station with your mind in mind." (Pearce) 7435 to 1851, with return of "Phil Musik," commentary on Clinton, etc. (Murphy)

Outlaw Radio, 6955 USB at 1815, with sexy-sounding woman doing IDs, biker rock, repeat of an earlier program. (Murphy, VA)

Radio Free Speech, 6955 at 2143, with host "Bill O. Rights" and novelty songs, commercial parodies and editorial comments. Nice QSL package. Also heard to 1510. (Haas) To 0435, with country music, fake commercials. A\*C\*E plug. (Kelly) To 0028 and to 2033, with funny commercials, "Rocky 10 on Social Security." (Murphy)

Cellblock 13, 6955 USB at 2313 sign-on, with *Time Has Come Today*. (Kelly)

P.O.L.K.A., 6955 USB at 0018 to 0030, "Open a beer and let's polka!" (Kelly)

Radio Freedom International, 6955 USB, heard with several broadcasts of its

programs from the 1980s. Heard at 1345, 1359, 1500, 1517. (Haas) 6955 LSB to 1509 closing test, broadcast featuring short clips of Euro rock groups. (Murphy)

Voice of the Dead, 6954.9 USB at 1452, "guided tour of the land of the dead with your host, the dead guy. I'm a computer-synthesized voice and, therefore, not alive...contact us at 770 Sycamore Ave., Suite J193, Vista, CA 92083. Off with Beethoven's *Fifth*. (Pearce)

Radio Free Euphoria, 6949 at 1704, with "Capt. Ganja" and "Mary Jane Kilo." Advocating legalization of marijuana. Off at 1747. Via NARPS? (Haas)

R-O-C-K, 7435 at 1730-1800, lots of electric and metal guitar. "This is R-O-C-K, solid sound in North America." (Murphy)

YVES, 6955 at 2018, with Euro-sounding DJ. Hard to understand, gave QSL address in Germany. (Murphy)

NARPS, 6955 at 0026 sign-on, with third anniversary special and rebroadcasts of a long list of previous relays. (Myers)

Friedmont Farms Radio Network, tentative name, 6955 at 2155, with program, *Who Are the Real Pirates?*, and talk on microcasting. Announced 350 Seventh

*(Continued on page 87)*



# Scanners/CB/Weather Stations

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Bearcat 80XLT-U handheld with 800 MHz .....	\$144.95
Bearcat BC17-U information mobile .....	\$168.95

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The Weather Monitor II (7440) comes complete with anemometer with 40 feet of cable, external temperature sensor with 25 feet of cable, junction box with 8 feet of cable, AC power adapter, detailed instruction booklet and one year limited factory warranty.



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Thermometer with AM/FM clock radio by Oregon Scientific CR388-U ..	\$39.95
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## Bearcat® 9000XLT-U Radio Scanner

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500 Channels • 20 banks • Alpha numeric display  
Turbo Scan • VFO Control • 10 Priority channels  
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Frequency step resolution 5, 12.5 & 25 KHz.

Size: 10-1/2" Wide x 7-1/2" Deep x 3-3/8" High

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The Bearcat 9000XLT gives you pure scanning satisfaction with amazing features like TurboSearch™ to search VHF channels at 300 steps per second. This base and mobile scanner is ideal for surveillance professionals because it has a selectable attenuator to help eliminate annoying intermodulation from adjacent frequencies in highly populated areas and selectable AM, Wide FM and Narrow FM modes that allow you to change the default receiving mode of the BC9000XLT. Other features include **Auto Store** - Automatically stores all active frequencies within the specified bank(s). **Auto Recording** - This feature lets you record channel activity from the scanner onto a tape recorder. **Hi-Cut filter** to help eliminate unwanted static noise. You can even get an optional **CTCSS Tone Board** (Continuous Tone Control Squelch System) which allows the squelch to be broken during scanning only when a correct CTCSS tone is received. For maximum scanning enjoyment, order the following optional accessories: **PS001** Cigarette lighter power cord for temporary operation from your vehicle's cigarette lighter \$14.95; **PS002** DC power cord - enables permanent operation from your vehicle's fuse box \$14.95; **MB001** Mobile mounting bracket \$14.95; **BC005** CTCSS Tone Board \$54.95; **EX711** External speaker with mounting bracket & 10 feet of cable with plug attached \$19.95. The BC9000XLT comes with AC adapter, telescopic antenna, owner's manual and one year limited warranty from Uniden.

## CB/GMRS Radios



The Maxon GMRS 210+3 transceiver is a PLL synthesized 10 channel radio on General Mobile Radio Service frequencies. It's the ideal radio for long range communications. Two repeater channels are programmable and one channel (462.675 MHz.) is set aside for emergency and safety communications. The seven remaining interstitial frequencies 462.5625, 462.5875, 462.6125, 462.6375, 462.6625, 462.6875 and 462.7125 MHz are all-purpose GMRS radio channels. 2 watts of RF power for exceptional transmitting range. Up to 5 watts when used with the supplied 12 volt vehicle DC power cord. CTCSS built-in. Includes 450mAh Ni-cad rechargeable battery pack, AC/DC wall battery charger, owner's manual, FCC license application, belt clip, antenna. Call 1-800-USA-SCAN to order.

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# Communications Confidential

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

## Globe Wireless Has New Zealand Station Up

**G**lobe Wireless began operation from Awanui Radio/ZLA in New Zealand, the newest node in the company's Global Radio Network of public coast stations. The network now covers Europe, both coasts of the United States, the Atlantic and Pacific oceans, the Panama Canal, the Caribbean Sea and the Gulf of Mexico.

The new radio station is licensed to and operated by Global Wireless New Zealand Ltd., a wholly owned subsidiary of Global Wireless. Construction of the facilities was by a team of local professionals managed by Paul Tolenaars, a former Auckland Radio/ZLD employee.

The new transmitter installation is located at a historical radio site on Wireless Road, between Kaitaia and Awanui, in the North Island.

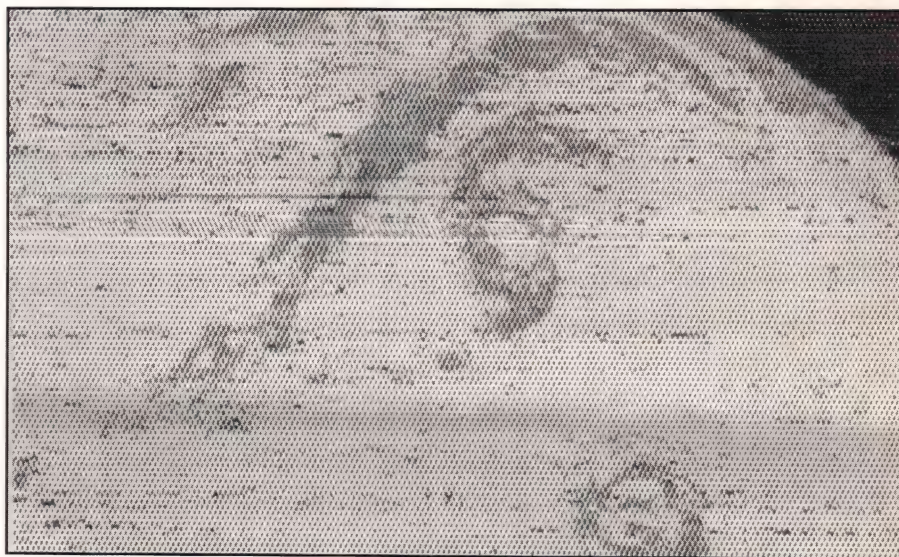
Commissioned in 1913, "Radio Awanui was New Zealand's main station for communications with ships," according to information provided by the Far North Regional Museum in Kaitaia, New Zealand. A Telefunken quenched spark system was used for transmission. The original station was dismantled in 1930, and the area has since been used for farming.

A data link to the Global Wireless Traffic Delivery Center in Half Moon Bay, Calif., allows the exchange of messages and supporting communications. "With the common message database in Half Moon Bay, ships can send and receive their traffic through any of four stations," said Dino Martins, Globe Wireless general manager. "There are now over 30 SITOR channels to choose from. Our network can be reached day or night from the world's oceans." The network also offers marine telegram (CW) service from its CW superstation with nodes in California and Louisiana.

Last month, I neglected to point out why I had stated the JCS code name for the NEACP, "NIGHT WATCH," was two words rather than one. The information I read was in response to a Freedom of Information Act (FOIA) request and, thus, I accept that version until someone advises me otherwise.

Perry Crabill Jr., Virginia, advises, "I heard Easter Island again, but I didn't list it because it wasn't a new logging. Two new stations in Manitoba are listed, along with two in Saskatchewan and one in Montana.

"I picked up my second Brazilian URT, 235 kHz, located south of the Equator, in



*Sue Wilden, Indiana, used her Sangean ATS-803A with dipole to capture Hurricanes Iris and Luis. The fax was printed out with PC telex software and a Tandy 3200 486/33 computer.*

Uruburetama on the eastern bulge of the country; it's 3,849 miles from my QTH."

Perry uses a Drake R-8 receiver, 100-foot inverted-L antenna that is 20 feet high, RSM model 105-C 3-foot LW loop and a Timewave DSP-59+ Filter.

Walt Petersen, Florida, writes, "I've been having a bunch of fun cruising the beacons, and I thought I'd pass along more loggings. I think I mistyped my antenna in the last letter. It's a 40-foot vertical."

Though Walt couldn't make positive IDs on some beacons, he heard AAF on 347 kHz; but the Beacon Guide shows AAF to be on 410 kHz. Possible frequency change? He found no listing for UEK on 453 kHz. I also do not have an ID for that beacon. Walt, beacon PPA operates on 450 kHz and is located at Puerto Plata International Airport, Dominican Republic.

While home sick one day, Dwight Simpson, Wisconsin, listened to 5696 kHz and heard three search-and-rescue missions. The first one involved U.S. Coast Guard CAMSLANT Chesapeake in comms with USCG C130s, Rescue 1500 and Rescue 1501, out of Elizabeth City, N.C. The C130s were looking for a missing vessel named Indulgent Wife. It appeared that Rescue 1501 also had some helicopters under its control during the search.

At 1445, Rescue 1501 called Rescue 1500 to report it was checking out a flare sighting. At 1448, R1501 called CAMSLANT saying it found Indulgent Wife. The vessel had no receive capabilities, but it was transmitting OK on VHF. R1501 wanted CAMSLANT to relay this info to D5 ops. At 1500, R1501 advised CAMSLANT that a rescue swimmer from the 6501 was going to be put aboard the Indulgent Wife to get a better handle on the situation. Comms continued with the R1501 off and on until Cutter 41335 arrived on scene at about 1740. R1501 then departed the scene and returned to Elizabeth City.

The second mission monitored had COMSTA Boston in comms w/CG Rescue 2107 regarding tasking message. Told R2107 to contact Cape Cod Air on UHF to receive that message. R2107 returned to base right after USCG Rescue 1501 found the missing vessel described in the first mission.

The final mission observed had COMSTA New Orleans working with USCG Rescue 2122 from 1430 until 1800. R2122 asked COMSTA New Orleans to accept their guard. Had five POBs, home plate was ATC Mobile and destination was to look for an active EPIRB. Comms continued between R2122 and New Orleans





Here is a copy of the "Plank Owner" card issued to Mike Kitchen, U.S. Coast Guard.

#### Abbreviations Used For Intercepts

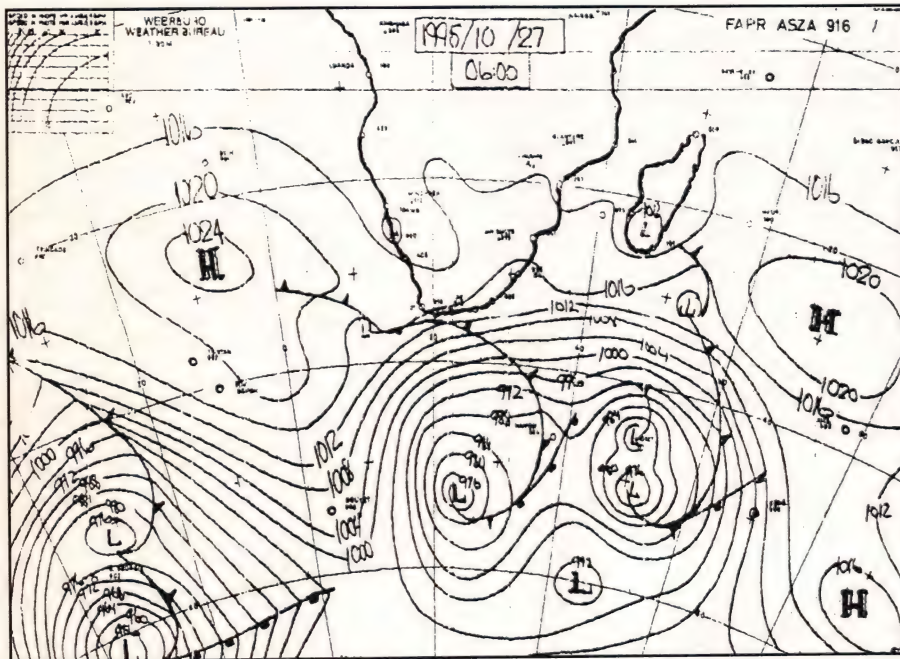
AM	Amplitude Modulation mode
BC	Broadcast
CW	Morse Code mode
EE	English
GG	German
ID	Identification/led/location
LSB	Lower Sideband mode
OM	Male operator
PP	Portuguese
SS	Spanish
tfc	Traffic
USB	Upper Sideband mode
w/	With
wx	Weather report/forecast
YL	Female operator
4F	4-figure coded groups (i.e. 5739)
5F	5-figure coded groups
5L	5-letter coded groups (i.e. IGRXJ)

bers it because he was a member of the precommissioning crew (known as a "plank owner" in USN/USCG jargon).

#### UTE Loggings: SSB/CW/SITOR/etc.

All times in UTC.

- 136: NPG, USN ComSta, San Francisco (Dixon), CA, at 1100. (DT)
- 208: Beacon YSK, Sanikilauq, Northwest Territories, Canada, at 0935, 1094 miles. (AH)
- 223: Beacon AZW, Mount Airy, NC. DSB?, hrd at 0510. (PC)
- 226: Beacon RJD, Ridgely, MD, at 1528. (PC)
- 233: Beacon CNH, Claremont, NH, at 0649, 135 miles; Beacon EY, Chesapeake, VA at 1519, 432 miles. (AH)
- 235: Beacon URT, Uruburetama, Brazil, at 0630, 1000 Hz, 3,849 miles. (PC)
- 236: Beacon GNI, Grand Isle, LA, at 0245. (WP)
- 245: Beacon JYL, Sylvania, GA, at 0907, 836 miles. (AH)
- 247: Beacon COI, Cocoa, FL, at 1215. (WP)
- 251: Beacon ZQA, Nassau, Bahamas, at 0720, 1,194 miles. (AH)
- 253: Beacon TVG, Offshore, movable, Texas Pipeline, at 0914. Located in the Gulf of Mexico. (AH)
- 256: Beacon UNV, Nuevas, Cuba, at 0620, 1,434 miles. (AH)
- 260: Beacon YAR, Yaritagua, Venezuela, at 0616, 2,177 miles; Beacon YAT, Attawapiskat, Ontario, Canada, at 0611, 951 miles. (AH)
- 267: Beacon GN, Gainesville, FL, at 1210. (WP)
- 272: Beacon PFH, Hudson, NY, at 0651, 134 miles. (AH)
- 275: Beacon FGR, Salgado Filho, Brazil, at 1041, 5,109 miles. (AH)
- 276: Beacon TWT, Sturgis, KY, at 0631, 930 miles. (AH)
- 277: Beacon VIT, Roanoke, VA, at 0752, 548 miles. (AH)
- 280: Beacon 4B, Little Grand Rapids, Manitoba, Canada, at 0506, 1,216 miles, 400 Hz. (PC)
- 281: Beacon L, Charlo, New Brunswick, Canada, at 0510, 400 Hz. (PC)
- 282: Beacon MXA, Manila, AR, at 0521. (PC)
- 284: Beacon RT, Rankin Inlet, Northwest Territories, Canada, at 0813, 1,696 miles. (AH); Beacon QD, The Pas, Manitoba, Canada, at 0535, 1,482 miles, 400 Hz. (PC)
- 287: Beacon SMR, Santa Marta, Colombia, at 0230. (WP)
- 290: Beacon AOP, Rock Springs, WY, at 0715. (DT)
- 296: Beacon HCK, Knob Noster (Hawks), MO, at 0609, DSB. (PC) ID made per Stryker column in March 1995 Lowdown. (Ed.)
- 300: Beacon ABL, Ambalema, Colombia, at 0639, 2,562 miles; Beacon UGT, Guantanamo, Cuba, at 0554, 1,494 miles. (AH)
- 302: Beacon QW, North Battleford, Saskatchewan, at 0715. (DT)



Robert Hall, South Africa, sent in this fax showing the Pretoria Meteo transmission on 13536.2 kHz, USB, 120/576.

with the R2122 finding the EPIRB. R2122 then was tasked by D8 ops to try and find the vessel that the EPIRB came from. Dwight quit listening before hearing the final results.

Dwight uses a Kenwood TS430 transceiver, Sony 2010 receiver and a G5RV antenna at 35 feet.

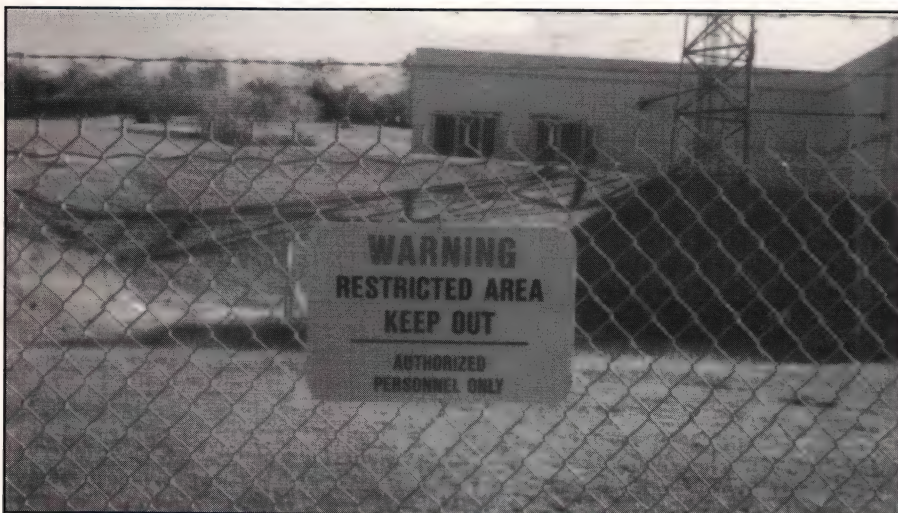
Rick Baker, Ohio, reports that the RAF Volmet has moved again. He found its 4-MHz band signal on 4715 kHz. Rick also copied an apparent special daily sked at 1945 on 14736 kHz held by the Russian transmitting site in Cuba and the Russian

UN legation in New York. This additional sked was held only for about a week.

A letter from Don Petri, Illinois, says, "I have been SWLing since 1960, and a ham, KD9YV (upgrade 1986), since 1958. A retired FAA controller since 1988, I still help out by taking aviation weather observations at the local control tower a couple nights each week."

To answer the query from Jim Navary, Virginia, in the December 1995 column, Mike Kitchen, GM3, USCG, says the call sign of the USCGC Knight Island (WPB-1348) is NMFN. Mike says he well remem-





While on a trip to St. Croix, Charles Lowenstein, Connecticut, took these photos of the U.S. Navy Underwater Tracking Range. Charles described the facility as the only underwater range that can track submarines anywhere in U.S. waters.

ewan, Canada, at 0625, 1,709 miles, 400 Hz. (PC)

**311:** Beacon FET, Fremont, NE, at 0651. New freq; ex-287 kHz. (PC)

**315:** Beacon USR, Simon Reyes, Cuba, at 0040. (WP)

**317:** Beacon INY, Batesville, AR, at 0707; Beacon VC, La Ronge, Saskatchewan, Canada, at 0702, 1,666 miles, 400 Hz. (PC)

**320:** Beacon HTN, Miles City, MT, at MT. (DT)

**323:** Beacon BSD, Davids Head, Bermuda, at 0715, 732 miles. (AH)

**325:** Beacon BHF, Freeport, Bahamas, at 0115. (WP)

**326:** Beacon SU, St. Louis, MO, at 0737. (PC); Beacon DC, Princeton, British Columbia, Canada, at 1100. (DT)

**329:** Beacon YHN, Hornepayne, Ontario, Canada, at 0250. (WP)

**330:** Beacon GLE, Gainesville, TX, at 0803. (PC)

**332:** Beacon VVV, Ortonville, MN, at 0804. DSB. (PC)

**333:** Beacon STI, Mountain Home, ID, at 0805. (DT)

**335:** Beacon CC, Concord, CA, at 1050. (DT)

**338:** Beacon 5Y, u/i, at 0448, 400 Hz. Canadian?? (PC)

**339:** Beacon YFT, Makkovik, Newfoundland, Canada, at 0454, 400 Hz. (PC)

**344:** Beacon VU, u/i at 0407, 1000 Hz. (PC)

**346:** Beacon EMV, Emporia, VA, at 0556, 472 miles. (AH)

**347:** Beacon Z8, Rivere Quelle, Quebec, Canada, at 0936, 512 miles. (AH); Beacon AIG, Antigo, WI, at 0539. (PC)

**349:** Beacon LE, Raleigh/Durham, NC, at 0130. (WP); Beacon AAF, u/i at 0536, 1000 Hz, DSB, peaks NE/SW. (PC) Could this be ex-410 kHz, Apalachicola, FL? (Ed.)

**352:** Beacon QG, Windsor, Ontario, Canada. Long dash after ID. Hrd at 0430. (WP)

**353:** Beacon HOT, Higuero, Venezuela, at 0802, 2,170 miles. (AH); Beacon UHG, Holguin, Cuba, at 0220. (WP); Beacon ZES, Cape Scott, Vancouver, Canada, at 0920. (DT)

**355:** Beacon TGU, Tegucigalpa, Honduras, at 0245. (WP)

**356:** Beacon TIM, Georgetown, Guyana, at 0604, 2,550 miles. (AH)

**360:** Beacon PN, Port Menier, Quebec, Canada, at 0150. (DSI)

**362:** Beacon GL, Belleville, IL, at 1001, DSB. (PC)

**364:** Beacon MHA, Manitowish Waters, WI, at 1014, DSB. (PC); Beacon TZ, Winchester Municipal, VA, at 0151. (DSI)

**365:** Beacon PTS, Pittsburgh, KS, at 1034. (PC); Beacon SYZ, Shelbyville, IL, at 1036. (PC)

**368:** Beacon EU, Murray, KY, at 1042, DSB.; Beacon IFA, Iowa Falls, IA, at 1055. (PC)

**369:** Beacon TT, Trenton, NJ, at 1100. (PC)

**370:** Beacon UCM, Camaguey, Cuba, at 0715, 1,444 miles; Beacon VVC, Villavicencio, Colombia, at 0729, 2,592 miles. (AH)

**375:** Beacon PJS, Newport News, VA, at 1503, 412 miles. (AH)

**377:** Beacon YRR, Ottawa, Ontario, Canada, at 0333, 400 Hz, new ID; ex-R. (PC)

**379:** Beacon BRA, Asheville Municipal, NC, at 0152. (DSI)

**380:** Beacon UCY, Cayojabo, Cuba, at 0030. (WP)

**382:** Beacon UPA, Punta Alegre, Cuba, at 0245. (WP)

**383:** Beacon D9, Huntsville, Ontario, Canada at 0347, 400 Hz. (PC)

**385:** Beacon HXX, Saginaw, MI, at 0923, 653 miles. (AH)

**391:** Beacon 3B, u/i. Hrd at 0631. (AH)

**400:** Beacon BGA, Bucaramanga, Colombia, at 0733, 2,397 miles. (AH)

**410:** Beacon ECB, El Cabo, Colombia, at 0939, 2,028 miles. (AH)

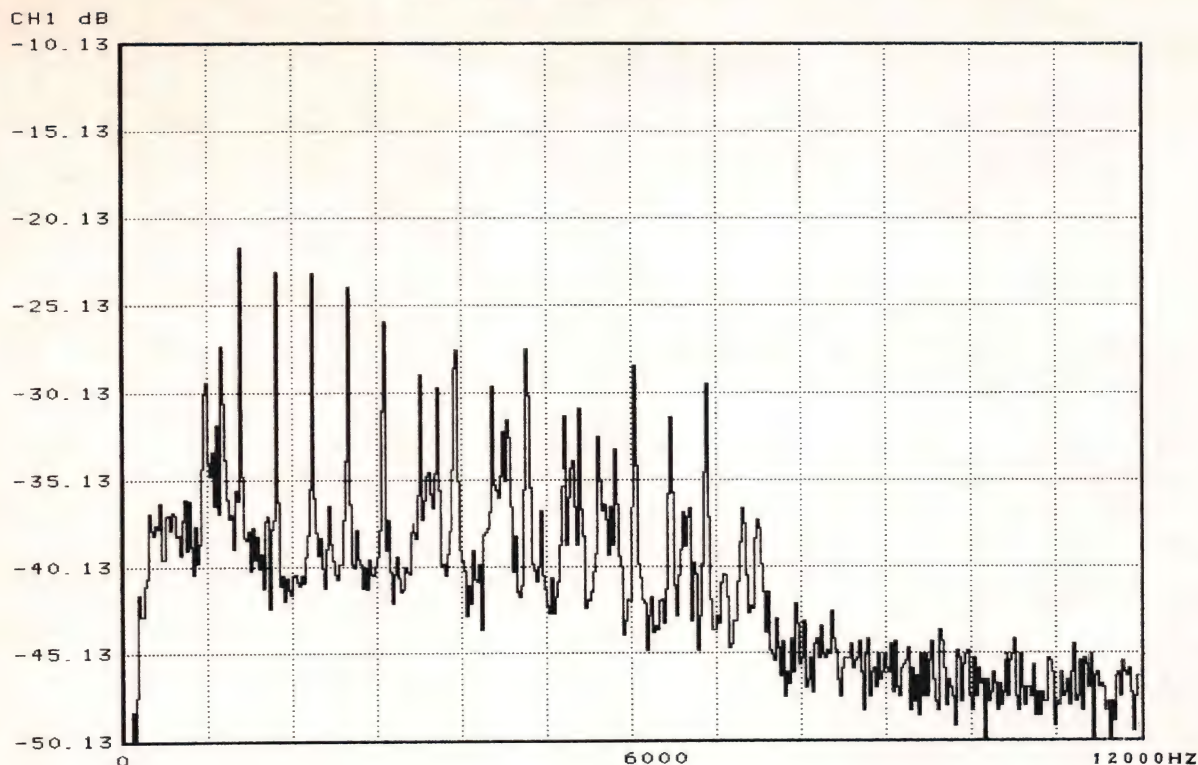
**414:** Beacon PYD, u/i, hrd at 0920. (DT)

**515:** Beacon OS, Columbus, OH, at 0959, 630 miles. (AH)

**518:** W, NAVTEX Fort Stevens, OR, at 0930. (DT)

**521:** Beacon PEU, u/i at 0648, 1000 Hz, peaks





This signal on 10255 kHz was determined to be USB, VFT-16A. Analysis performed by Kevin Tubbs, Vermont.

E/W. (PC); Beacon TVX, Greencastle, IN, at 0620, 672 miles, (AH); Beacon INE, Missoula, MT, at 0920. (DT)

**526:** Beacon ZLS, Stella Maris, Bahamas, at 0300. (WP)

**2461.5:** "54", u/i Irish Navy vessel at 0450 in SITOR-A wkg "0-3" w/tfc "FROM ACTU," Acting Commander Tasked Unit?? (RB)

**2598:** VCP, Canadian Coast Guard, St. Lawrence CG Radio, Quebec, Canada, at 0448 in USB w/Security announcement for gale wrngs, Georges Bank area. (RB)

**2670:** NMN80, USCG Group Hampton Roads, VA, at 0203 w/MIB, next bcst 1333. At 0420, NMB, USCG Group Charleston, SC, w/MIB. At 0545, NMY15, USCG Long Island Sound Group, wkg u/i lobster boat re his traps being taken. At 0546 NKEC, USCGC Monomoy (WPB-1326) wkg NMY15 re same. At 0603, NMF2, USCG Group Woods Hole, ME, wkg F/V Paduke w/hourly comm sked. At 0620, MNA10, USCG Group Mayport, FL, w/MIB. All USB. (RB)

**3517:** GNI, Niton Radio, UK, at 0651 in SITOR-A w/SITOR-free signal, CW id. (RB)

**4154.5:** DRKM, FGS Rhon (A-1443) German Navy replenishment tanker at 0225 clg/wkg DHJ59 w/l routine RTTY msg to send. At 0359, DRAU, FGS Koln (F-211) German Navy type-12 frigate, wkg DHJ59, Wilhelmshaven Naval w/GG t/c. At 0416, DRAT, FGS Emden (F-210) Emden (F-210) German Navy Frigate, clg/wkg DHJ59 w/l priority RTTY msg to send. At 0646, DRAX, FGS Gorch Fock (A-60) German Navy (Bundesmarine) 3-masted training barque, wkg DHJ59 re RTTY coordination, is sister ship of USCGC Eagle. At 2131, DRHF, FGS Alster (A-50) German Navy intelligence collection vessel, wkg DHJ59, w/RTTY t/c coordination, also at 0045 w/same in EE/GG. All in USB mode. (RB)

**4175:** YJWZ7, Bulk carrier M/V Neluana at 0606 in SITOR-A w/BBXX wx observations. (RB)

**4308.5:** DAN, Norddeich Radio, Germany, at

2250 in CW (30 wpm) w/ t/c list. (WP)

**4328:** FFL2/53/L4/L6, St. Lys, France, w/CQ tape in CW (30 wpm). (WP)

**5532:** KLM, Amsterdam (EU-LDOC) at 0654 wkg KLM 773 in EE/ Dutch; at 0710 wkg KLM 732 for ETA 1120, three items for maintenance. At 0744, Springbok Johannesburg (AFI: LDOC) wkg Springbok 201. Both in USB mode. (RB)

**5574:** San Francisco (CEP-1/2 MWARA) at 0208 in USB wkg Singapore 11 w/posn, selcal ck. At 0604 wkg UPS 2905 w/posn, selcal ck, CF-DQ; at 0607 wkg CanForce 578 w/posn; at 0653 wkg Canadian 133 w/posn. (RB)

**6303.5:** UKAK, RKMRT Fortuna at 1942 in 50/170 RTTY for crew TG t/c to K-Grad. (RB)

**6331:** U/i RTTY at 0740 w/Ry's. 45/260. (DT)

**6460:** FUM, Papeete, Tahiti, RTTY, 75/810, w/Ry's at 0600. (DT)

**6683:** AF-1 at 0525 wkg Andrews AFB for comm cks. At 1713, SAM 204, USAF C-20B tail 86-0204 Special Air Mission a/c, wkg Andrews for various pp. Both in USB. (RB)

**6739:** Albrook GHFS, Panama at 0631 in USB wkg REACH 00452 w/pp FURIOUS (AMC Theater Airlift Control Center for South America at Albrook) passes ETA 0845, A-1, 98,000 pounds cargo, 78 paxa 22 pallets, two rolling stock, 28 pieces registered mail requiring clerk. (RB)

**7535:** SESEF Norfolk hrd: "In Port Navy Unit" at 1536 w/req to "go green," into ANDVT t/c. At 1552, NSBJ, USS Ponce (LPD-15) w/tests of URT-23 HF xmters. At 1709 "NUSC New London," Naval Underwater Systems Command, clg SESEF Norfolk several mins, no joy. At 1916, NCAR, USS Carr (FFG-52) wkg SESEF re TACAN tests, our of range for now. At 1940, NAWR, USS Arthur W. Radford (DD-968) w/HF testing. USB is primary mode. (RB)

**7650:** BZR67, XINHUA, Beijing, China, at 0020 in 75/425 RTTY W/Ry's, QRA, DE, channel id/freqs. First time logged. (RB)

**7782:** KAWN, USAF wx svc, w/RTTY coded wx, 75/850, hrd at 0620. (DT)

**8026:** SAM 300, USAF C-20H (tail 90-0300) at 1711 in USB wkg Andy w/pp CROSSBOW re Sat-Comm freqs, 295.925 MHz given for a/c xmt, 268.450 MHz as a/c receive. (RB)

**8294:** WCP5034, Coastal Gulf Stream at 2206 in USB clg/wkg KHT, Rockwell Int'l, Cedar Rapids, IA, for R/T t/c; to WJK, Coastal Tug & Barge, Miami, FL, for posn, course and speed. (RB)

**8393.5:** USDB, factory fishing trawler BMKT 10 Pyatiletka, at 0549 in 50/170 RTTY w/admin t/c to URL fm Master KMD Khdemchenco. (RB)

**8401:** SQAI, M/V Jurata at 2240 in SITOR-A: w/pp t/c to: Pol: America via SPW, Warsaw Radio. (RB)

**8476:** FUR, Fort-de-France in RTTY w/Ry's & SGs, 75/810 at 0645. (DT)

**8623:** FUM, Papeete, Tahiti, in RTTY 75/810, w/Ry's at 0640. (DT)

**8912:** COTTON 207 at 0012 in USB clg/wkg COTTON 201 for rdo cks on U.S. Customs COTH-ERN ch. 2, later "Service Center" also clg/wkg 201 for same. (RB)

**10255.1:** No cs, Min. Provincial Affairs, Maputo, t/c/Portuguese, Mozambique, in SITOR-A. first time hrd. (RH)

**11200:** WAR46, Alternate National Military Communications Center, Raven Rock Mountain, PA, at 0336 in USB wkg NIGHT WATCH 01 w/comms ck. (RB)

**12478:** UHCK, TH Kapitan, Glazachev, at 2329 in SITOR-A w/t/c to Radio Arkhangelsk w/list of rdo t/c serial nbrs for QSL. (RB)

**12560:** TR Kerchenskij Proliv wkg Sevastopol in RTTY. (MR)

**12564.5:** UKAK, RKMRT Fortuna at 1749 in 50/170 RTTY w/long RR t/c w/receipts of fish/crabs fm other fishing trawlers; UVHR, SST Mureks at 1835 in 50/170 RTTY admin t/c, vsi bound Port Said, Egypt,



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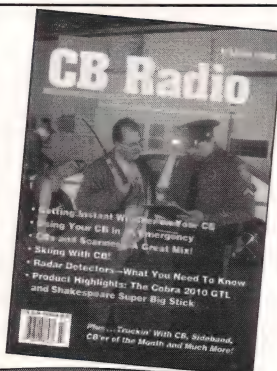
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TRANSMITTER/POWER: AN/VRT 24 / 30 WATTS

ANTENNA: 25ft WHIP

\*LOCATION: 25°15.7' S 112°42.8' E

**VERIFYING OFFICIAL AND STAMP:**

\*IF CLASSIFIED, MARK N/A



## HMAS BUNBURY

1/8/1  
BUN: /95

27 April 1995

C/- Warship Section  
BELMONT W.A. 6758

Richard Baker

*Dear Sir,*

Thankyou for your letter, dated 26 March 1995 which detailed BUNBURY's radio transmissions fortunate to be heard half a world away. On the evening in question, BUNBURY was in position 25°15.7' S 112°42.8' E. on route south to our home port and conversing with Darwin Control during a routine sked.

BUNBURY is a 42m long Fremantle Class Patrol Boat, fitted with 2x16 cylinder MTU diesel engines with a top end speed of 26 knots, homeported at HMAS STIRLING, Rockingham W.A. Crewed by four Officers, four Senior Sailors and 15 Junior Sailors, her main employment is Fisheries and Customs Surveillance of our northern waters to the 200nm outer extremities of the Australian Fishing Zone. A normal cycle is six week patrol followed by a 2-3 week maintenance and leave period. An average patrol would see the boat steam in excess of 4000nm and be at sea up to 35 days during a six week patrol.

The ship's communications fit consists of two HF transmitters and receivers, one UHF transceiver and one VHF transceiver. It is not unusual, depending on weather conditions to converse with Darwin, Cairns, Canberra, and Fremantle Control during the course of the patrol.

Please find enclosed information pertaining to BUNBURY and the Royal Australian Navy.

Yours Sincerely,

*A.G. Lugton*

A.G. LUGTON  
Lieutenant Commander RAN  
Commanding Officer

*Along with the return of his PFC, Richard Baker, Ohio, received an informative letter from the HMAS Bunbury*



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This U.S. government photo shows the communications intercept facility the Soviets provided the Sandinistas in 1982. Later, three more were built: at Puerto Cabezas, San Francisco and Santa Rosa.

last known as a BST (large tuna schooner) now seems to use SST prefix (Stednyj Sejnjet Tunets, or Medium Seiner, Tuna catcher). (RB)

**12574:** UCVK, UPS Kruzhenshtern at 1926 in 50/170 RTTY w/Ry's, into crew TGs to K-Grad, this is a recent change fm old c/s ENPZ. (RB)

**12598:** UQB, Kholmok Radio, Russia, (far east) at 2325 in 50/170 RTTY w/msgs to TH Blagoveshchensk, UZMY. First-time logging of this station. (RB)

**12601:** ZSC, Capetown, South Africa, w/tfc list now incl. "Globe Wireless/KFS." (RH)

**12745.5:** JJC, Tokyo, Japan, at 2350 in 60/576 FAX in what appears Kyodo nx FAX (weak sig). (RB)

**13538:** ZRO3, Pretoria, South Africa, meteo at 1000, FAX 120/576, superb shipping chart! (RH)

**13542.1:** ZRO3, Pretoria, South Africa, meteo at 1028 in RTTY 75/406 w/wx codes. (RH)

**14441.5:** NNNØCXG, USS O'Bannon (DD-987) at 2300 in USB wkg NNNØADV, private shore station in Denver w/QSY to 14470 kHz for pp tlc. (RB)

**14626.6:** RFLIF, FF Police Fort de France, at 1105 in ARQ-E3, 192/396, w/tfc in FF to Cayenne COPS, drug bust! (RH)

**14736:** Russian diplo tlc fm c/s MIG at 1946 in 5G/425 RTTY w/5L grps. (RB)

**14926.9:** RFTJCS, FF Dakar, Senegal, at 0835 in ARQ-E3, 192/381, w/tfc in FF to RFTJD FF Libreville. (RH)

**15873.3:** P6Z, MFA Paris, France, in FEC-A, 192/388 at 1658 w/364 grp msg of 5L grps to RFGW Paris. (RH)

**16108.4:** U/1stn at 0720 in RTTY 75/826, crypt, good tune. (RH)

**16111.1:** HBD20, MFA Berne, Switzerland, at 0715 in SITOR-A w/5L grps. (Ril)

**16143.6:** PICCOLO signal at 0835, u/i. Sig very close to FF, Fort de France activity, RFLI ARQ-E3/192. (RH)

**16687.5:** CCLY, PFG Lynch (F-07) at 1631 in SITOR-A. This Chilean navy frigate was wkg CBV, Valparaiso, Chile, w/5L grps. (RB)

**16801.5:** UUYK, Sovship I. Moskalenko at 1157 in RTTY 50/170 wkg UUI, Odessa; YLGA, Sovship TN Rumbula at 1035 in RTTY 50/170 wkg Riga. (RH)

**16958:** FUM, Papeete, Tahiti, at 2030 in RTTY 75/850 w/Ry's. (DT)

**16962:** FUF, Fort-de-France at 2030 in RTTY 75/850 w/ Ry's. (DT)

**17064.8:** EAD, Madrid, Spain, at 1601 in CW w/tfc list, then back to mkr. (RB)

**18046.7:** MFA Lisbon at 1258 in SITOR-A w/tfc in Portuguese to Kinshasa Embassy. First time hrd. (RH)  
**18050.2:** SNN299, MFA Warsaw, Poland at 0939 in POL ARQ 100/264 w/tfc. //18064.2 kHz. (RH)

**18101.5:** TU5EX, Ivory Coast ham at 1327 in packet/300 chatting to TR8XX, Gabon. (RH)

**18231.8:** Zaire bank circuit at 1229 in SITOR-A w/tfc in FF fm Bukavu to Kinshasa. (RH)

**18251.7:** MFA Cairo, Egypt, at 1235 in SITOR-A w/tfc in AA, 5L grps. (RH)

**18270.5:** HBD20, MFA Berne, Switzerland, at 1239 in SITOR-A w/5L grps for Nairobi Embassy. (RH)

**18319.1:** OMZ, MFA Prague at 1104 in RTTY 100/437 w/nx in Czech. (RH)

**18688.2:** SAM, MFA Stockholm at 1234 in SWED ARQ 100/395 w/tfc in Swedish to Ambassador Lusaka. (RH)

**18762.1:** MFA Bucharest, Romania, at 1239 in RUM FEC 164/369, unable decode. //18552.2 kHz. (RH)

**19011.7:** PCWI, MFA The Hague, Netherlands, at 1150 in SITOR-A w/5L grps. (RH)

**19101.7:** RFLI, French Forces, Fort de France, Martinique, at 1709 in ARQ-E3 192/425 idling. (RB)

**19171.1:** CNM85XII, MAP Rabat, MRC, at 1601 in RTTY 50/425 w/FF nx items. (RB)

**19751.5:** 6VU79, ASECNA Dakar, Senegal, at 1710 in WEFAX 120/576, good to fair sig. (RB)

**20415.3:** CLPI, MFA Havana, Cuba, at 2030 in RTTY 50/425 w/MINREX nx reports in SS, then into CW after sending "AIAAIA." (RB)

**20537:** FUF, Fort-de-France, Martinique, at 2040 in RTTY 75/810 w/Ry-SG's. (DT)

Our thanks to these contributors: PC—Perry Crabill Jr., Virginia; AH—Al Hemmalin, Rhode Island; RH—Robert Hall, South Africa; WP—Walt Petersen, Florida; MR—Michael Regan, Wisconsin; DSI—Don Schimmel, West Virginia; DS2—Dwight Simpson, Wisconsin; DT—Donald Tomkinson, California.



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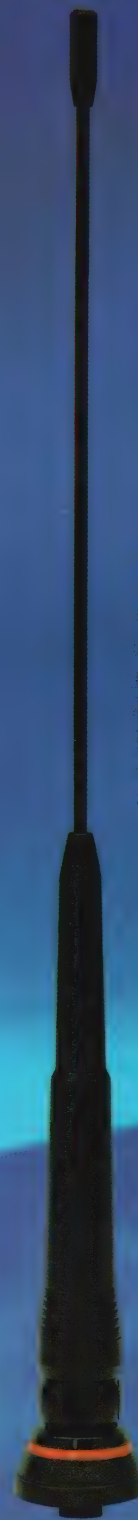
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# Telephones Enroute

BY TOM KNEITEL, K2AES

WHAT'S HAPPENING WITH CELLULAR, MARINE & MOBILE PHONES

## Pagers Could Keep Soldiers Alert

The U.S. Army Space Command's Advance Concepts and Technology Support Office seeks to demonstrate a simple concept. It wants to integrate Global Positioning Satellite (GPS) information with broadcast data as a basis for activating a soldier's pager or personal receiver.

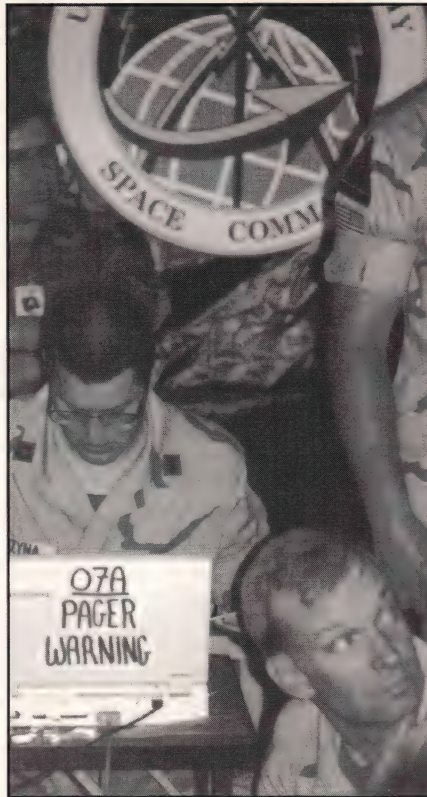
Imagine a scenario with a convoy departing to deliver Patriot missiles to an Air Defense Battery outside Kuwait City. They don't know it, but a SCUD missile is zooming in their direction. Sensors detect this and flash the data defining the impact area of the SCUD. This wide-area transmission reaches a receiver located in the convoy commander's vehicle.

The device then uses its GPS to determine, in real time, if they are in danger. The alarm sounds. A simple graphic display shows the convoy commander that they are inside the impact ellipse, 0.9 kilometers from ground zero, with two minutes and 12 seconds before impact. The commander directs the dispersion of the vehicles, and the soldiers seek cover. The missile hits nearby, but the application of present-day technology has foiled the effect of the SCUD. The convoy safely proceeds.

This isn't from *Star Trek VIII*, although it sounds as if it were. Minicircuits and antennas makes this practical for the combat GI. Tying this concept to GPS makes a global paging service a possible and necessary military communications tool. The Army Space Command has investigated the value of pagers and broadcast warning. It turns out that beepers are a concept whose time has come on the battlefield. They can revolutionize tactical event warning!

It's hard to believe, but true! The concept was tested last year at Fort Bliss, Texas, during an annual Air Defense Artillery exercise known as "Roving Sands '95." They experimented with commercial pagers to pass "SCUD alerts" to soldiers. This operated in the Tactical Operations Center (TOC) of the Army Theater Missile Defense Element Force Projection (ATMDE FP). Here's how it was set up.

Commercial alphanumeric beepers were issued to soldiers throughout the training area and within receiving range of the commercial paging network. The dispatcher was in the TOC using dispatch software on a laptop computer connected to a landline.



Maj. Tom Budzyna of the Army Space Command is shown putting the pager warning system through its paces during Roving Sands '95. (Courtesy U.S. Army Space Command)

Capabilities in the TOC enabled the dispatcher to know when a SCUD launch was detected, the projected impact point the instant it is computed, and the locations of friendly forces.

This awareness and the capabilities of broadcast comms enabled pager warnings to reach the soldier: first, before other tactical warning networks; fast, the soldier reacted before impact; accurately, only threatened areas were warned; and reliably, soldiers trusted the pagers. These factors make a big difference and were demonstrated in the field using existing commercial pagers. So where's the revolution?

Exploiting future global paging systems tied to GPS processing at the receiver can have a profound impact. Consider that if

a receiver knows its current time and location with GPS, then addressed data packages defining any event in location, or altitude, or time can be sent to that particular receiver for analysis.

Many systems send GPS data "up" to support situation awareness. But if you tell a soldier's receiver where a SCUD is heading, the GI can hightail it out of the way! So, instead of monitoring where every soldier is on the battlefield, send the data "down" to everybody and let a receiver-processor warn those who need it. After all, the database to support accurate tactical warning already exists, consisting of GPS receivers in the hands of thousands of service personnel and in systems.

This idea has other potentials, too. The Special Operations Forces Liaison Officer suggested the beepers could be used to broadcast launch-point data to aid recon teams deployed behind enemy lines. The Passive Defense Officer pointed it would be worthwhile to enhance warnings by broadcasting data that defines the path of a poison gas cloud. The Air Force Liaison Officer thought that enemy anti-aircraft unit locations could be broadcast to in-flight pilots to warn them that they are in or near deadly air space. The value of protecting civilian population with GPS precision is another possibility.

The potential commercial application of the concept for a "GPS public safety pager service" can inspire solutions to the technical hurdles associated with the idea. The result could be helpful to the Armed Forces. Inexpensive commercial receivers used by the military would benefit taxpayers. There are obvious law enforcement possibilities for this, too.

The Roving Sands pager experiment proved that beepers can go off to the battlefield, but integrating GPS data processing at the receiver is the key.

A tip of our kevlar helmet to Col. William W. Hoyman, chief of staff, U.S. Army Space Command, Colorado Springs, Colo., for his kind cooperation in bringing this information to POP'COMM readers.

## Fangs for Nothing

The teeth and dorsal fin of Universal Studios Landshark (USL) look menacing, but they're just make-believe. You may have seen this amazing vehicle on display



01: SCUD Alert // Impact Your Vicinity //  
Grid: AB123456 // Impact Time 12:42:30 //  
Time Now: 12:39:42

Example of a SCUD warning as it was sent out to pagers during the U.S. Army field test in Texas. (Courtesy U.S. Army Space Command.)

at car shows; it looks like an infuriated 30-foot-long, 10-foot-wide Great White Shark. Weighing nearly 10 tons, it was created to help promote the new *Jaws* thrill ride at Universal Studios, Orlando, Fla.

The outer body of the shark is made of Nidacore, a space-age polypropylene honeycomb utilized by NASA's space shuttles. Proving that beauty is more than skin deep, the interior of the vehicle actually is a mobile broadcast facility that operates via cellular radio. Using a cellphone for remote broadcasting was a clever idea.

The cellphone allows the USL to show up in any city, then feed programs to various local stations without the need for being licensed on any of the individual stations' remote pickup VHF or UHF auxiliary broadcast frequencies. The USL is traveling around the country.

Five people plus a driver can comfortably fit inside. In addition to the broadcasting equipment (including a sound effects generator), there's a 27-inch TV monitor with laserdisc player, a Super VHS VCR and Dolby surround sound, plus a 2,500-watt audio system with 16-speaker sound.



Emblem of the U.S. Army Space Command.



Universal Studios Florida's Landshark looks like a 30-foot Great White Shark. In actuality, it's a mobile broadcasting studio that sends out its programs via cellular phone. Read about in this month's column.

The vehicle itself has a 502-cubic-inch motor, is all-wheel drive, and all-steer. It is equipped with strobes, vapor trail and fog generators, and has tailpipes on both sides that can shoot flames 20 feet into the air.

Certainly the most fantastic cellular installation we have seen yet. Agree?

## 900 MHz Cordless Technology

Based upon the mail received here, it appears that many people are under the impression that all of the new 900 MHz cordless phones utilize the same technology. Not so, there are significant differences. Looks like it's time to take a look at the basic cordless phone terminology being tossed around, and learn what it means:

- 46/49-MHz phones may operate on as many as 25 channels using clear FM. A few costlier models have built-in analog voice scramblers. No present 46/49-MHz units use digital technology.

- 900-MHz phones use a frequency band that is larger and presently far less crowded than the original and more populated 46/49-MHz band. Most 900-MHz phones are digital FM, and some also use spread-spectrum technology. All 900-MHz phones cost considerably more than those using the 46/49-MHz band. The 900-MHz digital phones offer better range and clarity than the 46/49-MHz phones. Note that a few less expensive 900-MHz phones (such as the Uniden EXP-901) are not dig-

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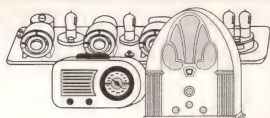
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*Travel Talk from ORA Electronics adds a combination speaker and mic to your portable cellular phone, allowing for hands-free driving. It also powers the radio and charges it while you drive.*

ital, but use clear FM processed through an analog scrambler.

•Digital cordless phones are capable of being switched to operate on numerous channel pairs (mated transmit/receive frequencies), however, each call is handled over only a single channel pair.

•Spread-spectrum cordless phones also are 900-MHz digital devices, but more advanced, offering optimum clarity and range. Instead of each call remaining on a single channel pair, the phone distributes it out over several operating channels.

Digital phones cannot be intercepted using present hobby equipment, but it is possible for outsiders to listen in on calls made on all other 46/49- and 900-MHz phones (including analog scrambled).

## Travel Talk

Travel Talk is a hands-free speaker-phone for portable cellular phones that can travel with you from car to car.

This is a complete double-threat gizmo that is not only a hands-free speakerphone, but also a power cord. It allows you to have the safety of driving without having to hold the phone in your hand. In addition, it simultaneously powers the phone. As an extra bonus, it's also charging the phone's battery while it's in use.

Compact enough to fit into a brief case, purse or glove compartment, Travel Talk doesn't need any installation. One end plugs into the car's cigarette lighter. The other end plugs into the user's cellphone. No more to it than that.

Travel Talk features an integrated, high-powered speaker and quality built-in mic providing clear, sharp conversations. The speaker conveniently tilts and rotates for the most convenient positioning. A phone-mounting cradle comes with Travel Talk to provide easy access to the cellphone.

This device is available for the Motorola Micro TAC Series portables (Model THFM5) with a suggested price of \$129.95. Soon it will be available also for the Nokia 2120 and AT&T 6650 phones. Look for Travel Talk at dealers in cellphone products. It's made by ORA Electronics, 9410 Owensmouth Ave., Chatsworth, CA 91313; phone (818) 772-2700.

Your input to Telephones Enroute is sought in the form of comments, news clippings, questions and opinions relating to cellulars, beepers and all personal wireless services. This column also seeks new product information and photos, as well as information from service providers. Please indicate "For Telephones Enroute" when you address material directed to this column.



# Clandestine Communique

WHAT'S NEW WITH THE CLANDESTINES

## Kurdish Clandestine Testing On the Air

A new Kurdish clandestine station, Dense Medya (also reported as Danye Mede)—the Voice of the Medes—is being noted on 9855 with broadcasts at 0800 to 1100 and 1500 to 1800, also announcing 11985 and 15255. Initial test broadcasts have consisted mostly of music. It is thought that the station may be using transmitters in Russia and may be associated with MED-TV, a satellite TV service beamed to the Kurdish areas from London. Medes is a Biblical name for the Kurds. Your editor has noted what appears to be this station after 1500 on 9855 in presumed Kurdish.

What appears to be Radio Mogadishu/Voice of the Somali People, has been noted to 2059 sign-off on 6870 with a mostly talk program in Somali and Arabic. Chances of logging this very difficult catch are restricted largely to those living in the eastern part of North America and even then to the winter months, at least during this time period.

Radio Free Somalia is reported still active, using 3920 from 1600 to 1715, and apparently at other times as well. Radio Free Somalia is connected with Radio Free Bougainville. Australian amateur radio operator Sam Veron has been instrumental in organizing and setting up both stations, with assistance from the International Amateur Radio Network.

A Voz do Galo Negro, the now more-or-less official Angolan station operated by the UNITA opposition group, is being noted on new 7090 (formerly 7100) around 2000—making it another one requiring midwinter and an East Coast location. You may have better luck around 0500. They normally identify simply as "VORGAN," an acronym of the station's full name. The broadcasts are in Portuguese. VORGAN also is making use of 7140 for part of its schedule.

The Voice of the Palestine Revolution has been noted on 5995 in Arabic at around 0400, announced as in parallel to 9670. This station is reported to be using transmitters in Iran.

The Voice of East Timor, produced by the Fretelin Resistance Movement, is being aired over Radio Portugal's transmitters from 1000 to 1200 on 17595. East Timor used to be controlled by the Dutch and Portuguese. The eastern Portuguese portion was lost when Indonesia invaded and took over in 1975. The daily broadcast is in both Portuguese and Tetum, the language used in Timor.

The multiyear war between the Sri Lan-



WRNO, New Orleans, carries the neo-fascist program *American Dissident Voices* on 7355 and 15420.

kan government and the Liberation Tigers of Tamil Eelam turned hot again a few months ago. Sri Lankan Broadcasting Corp. is doing its part for the government's cause by carrying a service produced by various Tamil organizations that support the government. This is aired in Tamil on 6035 (running just 12.5 kW) from 1315. West Coast monitors might have a chance of hearing this one.

Here's the latest schedule for Radio Marti, the U.S. government's anti-Castro voice: 0000-0100 on 6010, 7365, 9815; 0100-0300 on 6010, 7365; 0300-0400 on 6030, 7365 (Tuesday through Saturday); 0400-0900 on 6030 (Tuesday through Saturday); 0900-1200 on 6030; 1200-1400 on 9565; 1400-1600 on 11740, 11815, 11930, 13820; 1600-1700 on 9825, 11740, 11815, 13820; 1700-2000 on 9825, 11930, 13820; 2200-2300 on 9815, 11930, 13820, 15330; and 2300-0000 on 6010, 9815, 13820 and 15330. Steve Pellicciari in Connecticut noted the broadcast at 0700 on 6030.

Steve also reports reception of the anti-Castro La Voz del CID on 6305, also at 0700, and noted that the signal "seems to have some warbling jamming." Yes, Steve, Cuban jammers are at work on CID as well as most of the other anti-Castro broadcasts.

The Voice of Kashmir Freedom has been reactivated and is operating on 4115, in Urdu from 1530 to 1730 (or perhaps only to 1700) and is jammed by India,

which, of course, has no interest in seeing Kashmir as an independent country.

The Voice of the Iraqi People says it broadcasts on the 41-, 49- and 75-meter bands (that narrows it down, right?). Recent frequencies actually in use include 3925, 5922 variable and 7030 variable. A segment in Arabic runs from about 1730 to 1845.

American Dissident Voices, the far, far, far right wing (neo-fascist) program of the National Alliance is being aired on WRNO Saturdays at 1630 on 15420, Sundays at 0100 on 7355 and Mondays at 0030 on 7355. The program also is carried at various hours on several U.S. domestic AM and FM stations.

## Closing

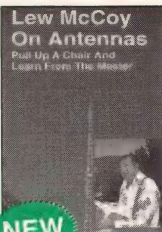
"Havana Moon," a name many clandestine radio and number stations transmission enthusiasts will remember, passed away earlier this year. William Godbey, his legal name, was well-known for his writing and research into the numbers stations mystery. Godbey was the author of *Unos, Dos, Cuatro—A Guide to the Numbers Stations* (Tiare Publications) as well as several articles in *POP'COMM*.

That covers things for this time. We welcome any news or other items you may turn up relating to clandestine broadcasts. That includes loggings, news notes you may spot in the media, operational schedules, station addresses, information about sponsoring organizations and the like. ■





# CQ BOOK &



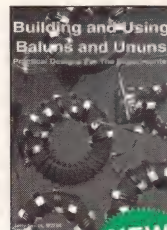
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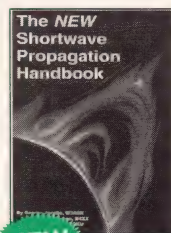
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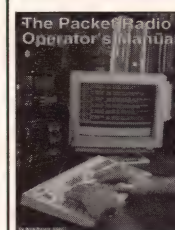


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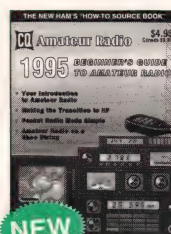


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This video will help de-mystify the exciting but sometimes confusing world of packet radio. Learn how to get started using your computer on the radio. Included are step-by-step instructions on making packet contacts and using packet bulletin boards, networks and satellites.

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For the newcomer to contesting or an experienced veteran, this video is for you! You'll get advice and operating tips from some of contesting's most successful competitors, including Ken Wolff, K1EA, Dick Newell, AK1A, and CQ's own contest columnist, John Dorr, K1AR. Here's just a sample of what you'll see: what contesting's all about, explaining contest jargon, tips for beginners, how to compete from a small station, operating secrets from the "pros", live QSOs from world-class stations, and VHF/UHF contesting.

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# Washington Pulse

## FCC ACTIONS AFFECTING COMMUNICATIONS

### **Oncor to Make \$500,000 Payment**

Operator Communications Inc., also doing business as Oncor Communications Inc. (Oncor or OCI), has agreed to make a voluntary payment to the U.S. treasury of \$500,000 to settle allegations that Oncor violated FCC rules by switching a telephone subscriber's long-distance carrier without the subscriber's authorization.

Under the terms of a consent decree announced, Oncor also will implement specific measures designed to protect consumers from being switched to Oncor service without their approval in the future. In July 1995, Oncor began operating under the name OCI.

On March 31, 1995, the commission released a notice of apparent liability finding that Oncor apparently had violated FCC rules and orders by changing the primary interexchange carrier (PIC) designated by the Metropolitan Transportation Authority of the State of New York (MTA) for 94 of its pay telephone lines without MTA's authorization. The consent decree will terminate that proceeding and address a number of other outstanding informal complaints to the commission accusing Oncor of slamming.

"Slamming" refers to the unauthorized switching of a telephone subscriber's long-distance carrier.

In addition to making the voluntary payment, Oncor will establish and maintain a "stay-away list" of individuals and entities who request that the company not market to, solicit or contact them. Oncor may not submit any PIC change on behalf of a customer unless the company has first verified that the subscriber is not included in the stay-away list, obtained a letter of agency that complies with all commission rules and is signed by the individual authorized to designate a PIC change or the individual has submitted approval directly to the local exchange carrier (LEC), and an LEC or other independent third party has verified each PIC change request. In addition, within 14 days of verifying each PIC change request, Oncor must mail a new customer a letter again confirming the change and disclosing all the conditions and charges that will apply to the customer's long-distance service.

The consent decree also requires Oncor to refund PIC change fees to any customers that allege Oncor switched their service without authorization and for whom Oncor is unable to produce a valid, signed letter

of agency or other record of verification. In addition, any end user who complains about Oncor's charges within six months of a disputed PIC change will have his or her bill rerated to reflect what would have been charged by the original carrier. If the bill already has been paid, Oncor will refund the difference to that end user. In other words, if a consumer uses a pay telephone whose owner has alleged that its service was switched to Oncor without authorization, a consumer using that payphone would be entitled to a refund or rerating for calls made from that phone.

Oncor also must disclose to each prospective customer that the customer is being asked to switch to Oncor, that the customer may select only one primary interexchange carrier, or 0+ or operator services carrier per line, and that the customer will incur a fee for this switch, although Oncor may inform the customer that it will reimburse those charges.

Oncor also has agreed to monitor the agents and employees marketing and advertising its services and respond appropriately to violations of the consent decree by any individual or entity acting on its behalf.

The consent decree does not constitute a finding by the commission or admission by Oncor of any liability for the acts described in the notice of apparent liability or in other complaints before the commission.

### **Warning Issued On Fraud Schemes**

The FCC is warning consumers to be aware of fraudulent wireless license investment schemes.

"Companies offering investment 'opportunities' seem to come out of the woodwork whenever the FCC has a wireless service to license," Gordon Coffman of the FCC's Wireless Telecommunications Bureau said. Because of the number of auctions for licenses to provide wireless services in coming months, the FCC, along with the Securities and Exchange Commission and the Federal Trade Commission, is embarking on an aggressive anti-fraud campaign. The FCC is putting fraud warnings on many of its public information materials, and Coffman has been named co-chair of the FCC's new Anti-Fraud Task Force.

"In recent years, unscrupulous promoters have paraded examples of people who purportedly made 'millions' in early cellular radio investments as proof positive that the same opportunity exists now in wireless

cable, Interactive Video and Data Service or Personal Communications Services," Coffman said. "Although one can hope that is true, it does not follow that any particular promoter has the business plan that will bring about the desired result."

In fact, there have been reports of thousands of individuals who have lost all the money they invested in such ventures.

People taken in by fraudulent investment schemes are led to believe that the FCC auctions of airwaves licenses are a guaranteed profit. But, according to Coffman, "Many of the so-called companies that persuade unknowing victims to invest in the FCC's auctions don't care if they win or lose a license."

And the FCC offers no guarantees. "The licenses the FCC offers in auctions are licenses to compete; there is no guarantee that a bidder will win a license at one of our auctions," FCC Wireless Telecommunications Bureau Chief Regina Keeney said.

Fraudulent investment companies generally target senior citizens and those least able to properly evaluate investment options. They make initial contact with potential investors through cold calls, television or radio advertisements or infomercials. The caller or the ads encourage interested investors to respond by calling a toll-free telephone number. After responding, they are subjected to a high-pressure sales pitch. The sales pitch often is accompanied by slick promotional packets that lend an air of legitimacy to the investment scheme.

After convincing investors, the fraud perpetrators set up general partnerships, limited partnerships, or limited liability corporations made up solely of their victims—investors who are told they'll be bidding in an FCC auction for licenses to provide wireless telecommunications services.

Because the perpetrators are not partners in the applicant company, they avoid FCC jurisdiction. The perpetrators also are careful not to emphasize that most of the money invested—sometimes up to 80 percent—goes to "administrative costs," leaving as little as 20 percent left to bid in the auction.

Coffman says that even if the partnership does win a license, it may not have sufficient capital to construct or operate the wireless service.

The FCC urges consumers with questions about upcoming auctions to call the FCC's auction hotline at (202) 418-1400. Inquiries or complaints about specific deceptive telemarketing investment



schemes should be directed to local state commissions on corporations or to the National Fraud Information Center at (800) 876-7060.

## Vanity Callsign Program Gets OK

The FCC has amended Part 97 of its rules governing the amateur service to implement a vanity callsign system.

On Dec. 23, 1994, the commission adopted a report and order establishing a system for the assignment of vanity callsigns to amateur stations. The commission amended the rules to make minor revisions requested in petitions for reconsideration.

The FCC made three revisions that will improve the vanity callsign system:

- Establishing a special application filing gate, Gate 1A, to provide licensed clubs the opportunity to obtain the callsigns of deceased members.
- Limiting requests for callsigns designated for Alaska, Hawaii and the Caribbean and Pacific Insular areas to licensees with mailing addresses in those areas.
- Limiting requests for vanity callsigns to licensees of the corresponding, or higher, operator class.

## New Experimental Stations

KS2XCW, Georgia Institute of Technology, 2400 kHz. Mobile in Rome, Ga. Transmit video information to fulfill a contract with the U.S. Army.

KA2XEA, ITT Avionics, bands 15100-16360, 17410-17900, 18168-18780, 18900-19680, 20010-2100, 21450-21924, 22850-23200, 23350-24890 kHz. Fixed in Clifton, N.J. Investigate the use of compact high-frequency radar for the tracking of aircraft.

KS2XEF, Reville Services, band 88-108 MHz. Fixed in Baltimore, Md. Test equipment pending certification.

KS2XDE, Litton Industries Inc., 140.350 and 151.950 MHz. Fixed and mobile in Agoura Hills, Calif. Fulfillment of U.S. government contract.

KS2XDT, Satelife, 148.8225, 149.8475 and 149.8725 MHz. Fixed in Cambridge, Mass. Operate earth station to communicate with a low-earth-orbiting satellite.

KS2XDT, Satelife, 400.525, 400.550 and 400.575 MHz. Downlinks for low-earth-orbiting microsatellite in polar orbit.

KQ2XYC, Motorola Inc., bands 910-915 and 955-960 MHz. Fixed and mobile in Chandler, Ariz. Research for GSM cellular systems.

KU2XAA, Time Inc., band 1626.5-1646.5 MHz. Mobile in United States. Operate INMARSAT terminal for communication in remote areas where no other means of communication are available.

KS2XEM, Cincinnati Microwave Inc.,

band 2400-2483.5 MHz. Mobile in United States. Demonstrate cordless telephone equipment to prospective customers at their locations and at consumer electronic shows, as well as perform limited field testing of equipment.

KB2XDS, Lockheed Martin Corp., band 2700-2900 MHz. Fixed in Moorestown, N.J. Development under ARPA contract.

KS2XCV, BellSouth Telecommunications, bands 27.5-28.35 and 29.1-29.25 GHz. Fixed in Atlanta, Ga. Analyze the technical feasibility of wireless broadband services.

KK2XCG, Wytec Inc., band 28.5-29.5 GHz. Fixed in San Jose, Calif. Develop equipment for terrestrial and satellite platforms.

KA2XEB, Cell Xion Inc., band 31.0-31.3 GHz. Fixed in continental United States. Demonstrate Part 21 and Part 94 equipment to prospective customers.

## Propose to Expand Biomed Operation on UHF

The Federal Communications Commission is proposing to amend Part 15 of the commission's rules to expand the available frequencies and increase the permitted power for unlicensed biomedical telemetry devices operating on VHF and UHF television channels.

This proposal is in response to a petition for rulemaking filed by the Critical Care Telemetry Group, which maintains that a serious shortage of usable spectrum has placed at risk the continued viability of existing medical telemetry services and, in turn, the safety of patients who rely on the provision of these services.

In adopting its notice of proposed rulemaking, the FCC indicates that it is seeking to provide reasonable access to additional spectrum to meet the needs of the health-care industry while protecting existing television and future advanced digital television services from potential interference.

Biomedical telemetry devices are used in hospitals to transmit patient measurement information to a nearby receiver, while offering to a patient both mobility and improved comfort. Typical devices include heart, blood pressure and respiration monitors. Biomedical telemetry devices currently may be operated on an unlicensed basis under Part 15 of the commission's rules with very low power on TV Channels 7-13 and 21-29.

They also may be operated with higher power on a licensed basis under Part 90 in the 450-470 MHz band. The proposed rules would permit unlicensed biomedical telemetry devices to operate with 5 mW of power on VHF Channels 7-13 and all UHF channels, provided no interference is caused to existing or future television transmissions. ■

## Pirates Den (from page 68)

Ave., Box 35, San Francisco, CA 94118, but possibly for microcasting info rather than reports. (Pearce)

Up Against the Wall Radio, 6955 USB at 1955, complete *Alice's Restaurant Massacre*. (Haas) To 2020. Wants comments with reports, no preprinted forms. (Murphy)

Radio Asylum, 6955 at 2112, with Blue Ridge drop mention. (Haas) 6955 USB at 2109, with ethereal music, rambling talks, ID for "The Asylum." (Murphy)

Voice of Revolutionary Vinco, 6955 at 1409, 1940s music, commercial for Vinco Channel 7 TV, *Megaphone Newsreel*. (Murphy)

Radio Bob Communications Network, 6955 FM, began in USB but switched to FM mode. "You're listening to Radio Bob, bringing you the best in subspace radio." (Murphy)

WQSO, 6960 USB to 0212, making fun of those who QSO instead of airing programs. (Murphy)

Computer Radio, 6955 USB to 2131, digitized voice, *Superman* theme. (Murphy)

The Logical Alternative, 6955 LSB at 0015, roller-coaster signal, all music except a Joe Fletch skit. (Pearce)

SUE-PERB, folks! Keep 'em coming and see you next month! ■

## Handi Chat (from page 88)

white ball ascending into a warm summer night, a well-executed fast break—the world has seen all this and more over the past 75 years with a clarity and fidelity high-definition television cannot approach. Additionally, the development and refinement of small personal portable broadcast receivers over the past 40 years has allowed the medium to penetrate virtually every aspect of our daily lives. Factor in the drama of the public service bands, and the excitement and challenge of two-way radio—local, regional, national, or international—and the conclusion is inescapable. As we poise on the verge of the next millennium, radio is gearing up for its next phase, the move from analog to digital. So stay tuned, keep your powder dry and your seat belts fastened; we're in for a wild ride!

"Well, I could go on rhapsodizing about the past, present and future of this fascinating medium, and I probably will. But for now, the clock says it's time to make tracks. Before I go, I'd like to thank all this month's participants. The quality and diversity of HandiChat readers is truly gratifying. Although the column is written from the perspective of, and with particular emphasis on the physically challenged, the main point from the beginning has been to demonstrate that we are merely part of the family. Judging from the response over the past two years, I believe we are succeeding; so keep those letters coming. For now, take care of yourselves, and I'll see you in June.



## FCC Acts for Hearing-Impaired

Those who have followed the column since last October are aware of the extraordinarily active role assumed by Federal Communications Commission Chairman Reed E. Hundt and the disability issues task force. In order to ensure that the commission practices what it preaches, the chairman's office announced on Oct. 12, 1995, that, henceforth, all broadcasts of FCC meetings would be closed-captioned. This represented a refinement of the previous policy, which called for closed captioning of meetings only when issues directly pertaining to the deaf were discussed. In making the announcement, Hundt noted that it was important that the FCC "not only develop policies that ensure that communications serve all Americans, including those with disabilities, but (also) that we follow our policy advice."

Personally, I find it particularly noteworthy that these bold actions and assertions fly directly in the face of recent irresponsible portrayals of the federal government as "intrusive," or worse. Given the vital role of the Executive Branch in past civil rights struggles, the FCC's attitude and approach are commendable, and should be widely emulated.

### Ham Calls

Now for an update on callsign information for newly licensed hams. Those who have tried the FCC number listed in the October HandiChat column no doubt have experienced frustration. If you are tired of that busy signal, contact the American Radio Relay League directly.

In the "League Lines" section of QST for July 1995, the number was given as (800) 326-3942. This is the league's education and training section—a valuable resource for new or prospective hams.

However, as of this writing, all requests for licensing information should be directed to the ARRL Volunteer Exam Coordinator (VEC), which may be reached at (860) 594-0300.

### Readers Write

Moving on to the mailbag, we heard from Robert B. Merkley, VE3JRR, of Ottawa, Ontario. A licensed ham, Robert is plagued by "spinal problems" and is a fan

of this column and the radio hobby in general. "You can travel the world from your home, make new friends, talk to people from all walks of life," he said. He adds that the only fly in the ointment has been erecting and maintaining antenna systems, but adds that friends have been most helpful. Sounds as though you have it together, Robert. Thanks for the support, and thanks for helping out.

A reader in Queens, N.Y., who wishes anonymity, responded to my mention of the Esko, Minnesota-based supplier FM Atlas in the October edition. He is the proud owner of a modified GE Super Radio II, which he extols for both its fidelity and sensitivity. He thoughtfully includes a short sampler of some of the musical, political, ethnic and religious subcarrier-based programming available to residents of metropolitan New York, long known as one of the nation's most diverse broadcast markets. Playback through a high-fidelity audio system reveals strong, clean signals and full-bodied audio.

For the benefit of any interested readers in the immediate area, our correspondent also mentions low-power station WTAV, the broadcast service of the Associated Blind of Chelsea, N.Y. (a local affiliate of the National Council for the Blind). While furnishing no programming details, having not actually heard the station (he isn't blind), he lists the frequency as 540 kHz. Although I am not familiar with the operation either, I would guess that the actual frequency is 530 kHz, because this is one of the channels set aside for automated, low-power information stations.

This month's last letter is a follow-up from John Wagner. You might recall he is the guy who uses shortwave radio as an antidote for severe physical discomfort. This time, he includes an original QSL card, which lists the addition of two new Drake receivers—an R8 and an SW8A. He also wants to get more involved in computers—hoping to "surf the 'Net for the ... radio information that has proliferated there." Good idea, John, but, in your zeal to cruise the information superhighway, don't overlook those all-important secondary roads, the local bulletin boards. Chances are your area has some good ones, any or all of which could feature a

radio forum, where information, programs and text files can be exchanged.

John says the column generated some letters, including requests for recommendations as to which receivers are good walkers. For sensitivity, dynamic range and general ergonomics, he recommends the analog Grundig Traveler 2 and Sony SW-10, and the digital Sangean 606 and Sony SW100—the "Lexus of all walkers," featuring solid audio, synchronous detection and a handy active antenna.

He closes with an eloquent plea for radio as therapy. For convalescents, "the enemy is not pain. ... The No. 1 enemy... is time." Without mental stimulation, boredom can lead to depression and disorientation.

When first presented with a shortwave portable, John reports many patients evince mild interest, or none at all. But time and boredom inevitably lead to exploration and metamorphosis. As they explore and discover, patients reconnect with the world around them, thereby stimulating the mind and raising the spirit.

Based on wide observation and experience, his message is simple: "Go thou and do likewise." Anyone having spare radios—"with operator's manuals if possible—along with frequency guides or back issues of POP'COMM or some similar publication is strongly encouraged to place them with patients in hospitals or convalescent facilities. You will lighten someone else's load, while promoting a great hobby; that's a winning combo in anyone's book. Again, those wishing to contact John should write to John T. Wagner, 8643 Applebridge Circle, Pickerington, OH 43147.

Thinking of the power of radio leads me to recall some statistics from an article on broadcasting in a recent issue of *U.S. News and World Report*. The article stated somewhat incredulously that, despite all the recent advances in communications technology, Americans on average still listened to 22 hours of radio per week, and that 99 percent of U.S. homes had at least one. These figures come as no surprise to any true hobbyist, and the reason is obvious; radio is magic! Fibber McGee's bulging closet, Jack Benny's vault, the elusive shadow, the first landing in Normandy, a

(Continued on page 87)



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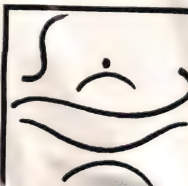
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## Advertisers' Index

A.M.C. Sales, Inc. ....	9
AOR, LTD. ....	Cov II
Ace Communications. ....	Cov III
Alpha Delta Communications, Inc. ....	6
Antenna Supermarket.....	21
Antique Radio Classified.....	82
Atlantic Ham Radio.....	54
Barry Electronics Corp.....	89
C. Crane Company.....	40
CB Radio Magazine.....	74
CQ Books & Videos.....	84,85
CQ VHF Magazine.....	19
CRB Research.....	59
CTP.....	54
Cellular Security Group.....	35
Communications Electronics, Inc. ....	69
Computer Aided Technologies.....	39
DECO Industries.....	59
DataFile, Inc.....	61
Delta Research.....	67
Drake, R.L. Company.....	13
Durham Radio Sales & Service, Inc.....	82
EDCO.....	7,24,25
Electronic Equipment Bank.....	1
GENie Radio & Elec. Roundtable.....	89
GMRS Radio Sales.....	89
Ham Radio Horizons.....	63
Index Publishing Group, Inc.....	78
Jesse Jones Industries.....	62
Jo Gunn Enterprises.....	9
K & L Technology.....	81
Lentini Communications, Inc.....	41
MFJ Enterprises, Inc.....	45
Microcraft Corporation.....	82
MoTron Electronics.....	43
Mouser Electronics.....	41
OFS WeatherFAX.....	29
Official Scanner Guide.....	61
Optoelectronics, Inc.....	4, Cov. IV
Phillips-Tech Electronics.....	40
R.C. Distributing.....	82
Radio Bookstore.....	26
RadioShack.....	33
Radiware Corporation.....	61
S-COMM.....	74
SIRIO antenne S.r.l.....	79
Scanner World USA.....	77
Scrambling News.....	61
Sheffield Electronics Co.....	59
Sherwood Engineering Inc.....	81
Software Systems Consulting.....	67
Spectrum International, Inc.....	21
Timestep.....	21
Tucker Electronics.....	15
U.S. Scanner Publications.....	37
Universal Radio, Inc.....	3
Viking International.....	40
Wilson Antenna, Inc.....	31
Xandi Electronics, Inc.....	78

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# How I Got Started

**P**opular Communications invites readers to submit in about 150 words how they got started in the communications hobby. They preferably should be typewritten, or otherwise easily readable. If possible, your photo should be included.

Each month we will select one entry and publish it here. You need submit your entry only once; we'll keep it on file. All submissions become the property of *Popular Communications*, and none can be acknowledged or returned. Entries will be selected for use taking into consideration if the story they relate is especially interesting, unusual, or even humorous. We reserve the right to edit all material for length and grammar, and to improve style.

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications*.

Address all entries to: How I Got Started, *Popular Communications*, 76 N. Broadway, Hicksville, NY 11801-2909, or e-mail to POPCOMM@aol.com.

## Our April Winner

Our winner writes in from the nation's West Coast. Meet Joseph G. Catalano:

"I have been a shortwave listener since I was 20. I bought my first shortwave radio, a Zenith Transoceanic, when I was in the Army, stationed at Fairchild Air Force Base, Spokane, Wash. This is where my armchair adventures took off. I would turn on the radio, tune in the stations I hoped to log, then write to them in hopes of receiving those treasured QSL cards.

"The first shortwave station I heard was Radio Netherlands from Hilversum, Holland. That was exciting to say the least! Once I heard a show on Radio Netherlands that I enjoyed (and I liked all of them), but because of a lack of precision of my analog dial, I had trouble tuning it in again. This dilemma is less common now as digital displays allow me to indulge in recliner-chair DXing. I stretch out in my recliner, my Panasonic RF-2900 sitting in my lap, and start tuning in those frequencies with the help of *POP'COMM's* World Band Tuning Tips.

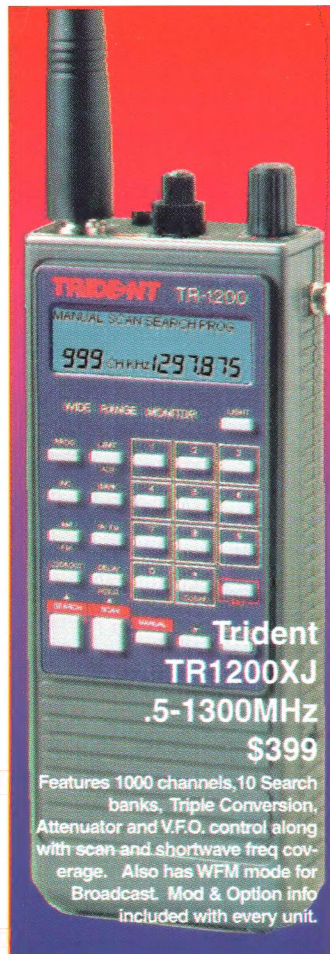
"I have QSL'd many countries and radio stations, but my two favorite QSL cards are: American Forces Radio Station in Antarctica and Radio Mi Amigo International.

"I recently replaced my Panasonic RF-2900 with a Grundig Yacht Boy 400, making the hobby compact for me. Let's face it, the hobby is an addiction!"



Here is Joseph Catalano participating in his favorite sport—recliner DXing!





**Bearcat BC230XLT**  
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42  
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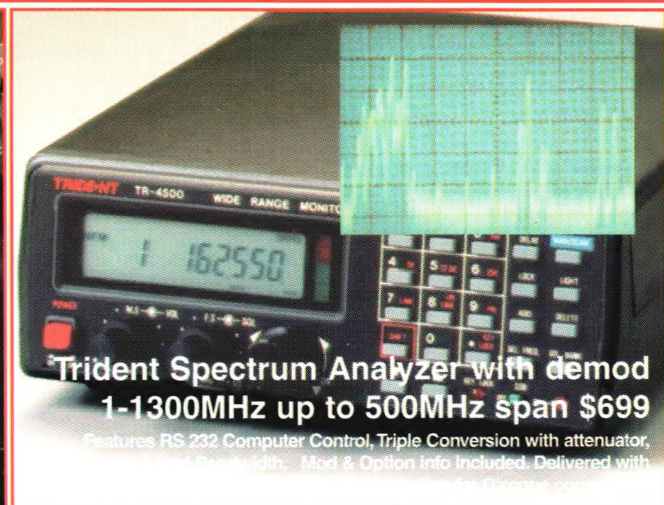
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**Bearcat BC9000XLTU** 25-1300MHz \$379

Features 400 channels, Twin Turbo, 10 Pri channels, Triple Conversion, Attenuator and data skip, along with Freq. copy and count, and search L/O. Also has WX and WFM modes. Mod & Option info included.

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The Scout will also Reaction Tune and Memory Tune Icom CI-V receivers: (R7000, R7100, and R9000) and (Pro 2005/6 equipped with OS456, Pro 2035 equipped with OS535). Download the Scout frequencies to a PC with the Scout Utility Disk and CX-12AR (optional), then compare them to the Spectrum CD-ROM/PerCon FCC Database (optional).

**Act Now!! Let the Scout Reaction Tune  
you into The World of Scanning**

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- Automatically tunes these receivers with Reaction Tune (Pat.Pend.) CI-V receivers (ICOM's R7000, R7100, and R9000), (Pro 2005/2006 equipped with OS456, Pro 2035 equipped with OS535) or AOR models (AR2700 and AR8000).
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- Rapid charge NiCads with 10 hour discharge time
- Scout Spectrum CD-ROM/PerCon FCC database (optional)
- AC Adaptor/Charger
- DB 32 VHF/UHF mini-antenna shown with Scout (optional)
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